Partners in UK offshore wind

MONA OFFSHORE WIND PROJECT

Environmental Statement

Volume 2, Chapter 6: Commercial fisheries

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Image of an offshore wind farm

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Glossary

Term	Meaning
Beam trawler	A vessel undertaking beam trawling, which is a fishing method of bottom trawling with a net that is held open by a solid metal beam, attached to two "shoes", consisting of solid metal plates, fixed to the ends of the beam.
Company Fisheries Liaison Officer (CFLO)	Primary contact for the Fishing Industry Representative and Offshore Fisheries Liaison Officer. Main point of contact for bp/EnBW for any commercial fisheries related queries.
Demersal fish	Demersal fish are species that live and feed on or near the seabed.
Demersal trawl	Demersal trawls consist of cone-shaped nets that are towed along the seabed to target demersal fish species. The mouth of the trawl is spread and held open by a pair of adjacent trawl doors.
Dredge	Dredges consist of rigid structures that target numerous species of shellfish through towing along the seabed. Dredges typically have an open-frame mouth with a collection bag.
Fisheries Industry Representative (FIR)	Primary contact point within the fishing community, provider of feedback to the Company Fisheries Liaison Officer and Offshore Fisheries Liaison Officer and disseminator of Project information.
Fishing ground	An area of water or seabed targeted by fishing activity.
Fleet	A physical group of vessels sharing similar characteristics (e.g. nationality).
Gear type	The method/equipment used for fishing.
ICES statistical rectangles	Defined areas of sea used for fisheries statistics (1 degree longitude by 0.5 degree latitude, equalling approximately 30 by 30 nautical miles).
Inshore waters (England and Wales)	Mean High Water Springs to 12 nautical miles (nm) offshore.
Kilowatt	Engine power of a fishing vessel. This is used in the calculation of fishing effort for Vessel Monitoring Systems data, whereby the time associated with the Vessel Monitoring Systems report is multiplied by the engine power of the fishing vessel. Engine power with gross tonnage determines the size of fishing licence required and, therefore, allowable catch, discards and quotas.
Landings	Quantitative description of amount of fish returned to port for sale, in terms of value or weight.
Notice to Mariners	The United Kingdom Hydrographic Office (UKHO) service of publications that contain all of the corrections, alterations and amendments to the UKHO worldwide charts and publications. These are published weekly and are available directly from the UKHO's.
Offshore Fisheries Liaison Officer (OFLO)	Liaison between fishing vessels and clients, using local knowledge and fisheries experience to ensure offshore operations run smoothly and encourage co-operation. Provider of feedback to the Company Fisheries Liaison Officer and Fishing Industry Representative.
Otter trawl	Otter trawls consist of a pair of otter boards (large rectangular boards) which holds open the mouth of a net.
Pelagic fish	Pelagic fish are species which live and feed within the water column.
Pelagic trawl	Pelagic trawls consist of nets which are used to catch fish in the water column, rather than on the seafloor.
Potter	A vessel undertaking potting, which is a method of fishing that uses pots (or creels) which are baited traps set down on the seabed to catch crabs and lobsters.

Term	Meaning
Safety zone	This includes defined safety zones (in accordance with the Maritime and Coastguard Agency) and advisory safety zones (recommended during construction and/or maintenance works).
Scallop dredger	A vessel undertaking scallop dredging, which is a fishing method to catch scallop using steel dredges with a leading bar fitted with a set of spring loaded, downward pointing teeth. Behind this toothed bar (sword), a mat of steel rings is fitted. A heavy net cover (back) is laced to the frame, sides and after end of the mat to form a bag.
Shellfish	For the purposes of this assessment, shellfish is considered a generic term to define molluscs and crustaceans.
Static gear	Gear that is set to catch fish or shellfish. This is a collective term and includes gear that remains static and is not towed, such as pots, traps and set nets.
Scallop Mitigation Zone (SMZ)	In order to ensure co-existence of the operational Mona Offshore Wind Farm and fishing activities, the final Mona array layout will include a turbine and OSP exclusion zone. Further details are provided in the Outline Fisheries Liaison and Co-Existence Plan (Document Reference: J10).
Vessel Monitoring System (VMS)	Satellite tracking system using a device on vessel which transmits the location, speed and course of the vessel.

Acronyms

Acronym	Description
AIS	Automatic Identification System
ANIFPO	Anglo-North Irish Fish Producers Organisation
CFLO	Company Fisheries Liaison Officer
CMS	Construction Method Statement
COLREGS	The Convention on the International Regulations for Preventing Collisions at Sea 1972
CSIP	Cable Specification and Installation Plan
DEFA	Department of Environment, Food & Agriculture
Defra	Department for Environment, Food & Rural Affairs
DCO	Development Consent Order
DECC	Department of Energy and Climate Change (now BEIS)
DP	Design Plan
EIA	Environmental Impact Assessment
EU	European Union
EU STECF	European Union Scientific, Technical and Economic Committee for Fisheries
FIR	Fishing Industry Representative
ICES	International Council for the Exploration of the Sea
IEF	Important Ecological Features
IoM	Isle of Man

Acronym	Description
ISEFPO	Irish South & East Fish Producers Organisation
LTMP	Long-Term Management Plan
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MDS	Maximum Design Scenario
MFPO	Manx Fish Producers Organisation
MHWS	Mean High Water Spring
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
NRW	Natural Resource Wales
OEMP	Offshore Environmental Management Plan
OFLO	Offshore Fisheries Liaison Officer
PEIR	Preliminary Environmental Information Report
SAC	Special Area of Conservation
SFF	Scottish Fishermen’s Federation
SPA	Special Area of Protection
SSC	Suspended Sediment Concentrations
SWFPA	The Scottish White Fish Producers Association Ltd
SMZ	Scallop Mitigation Zone
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office
VMS	Vessel Monitoring System
WCSP	West Coast Sea Products Ltd
WFA	Welsh Fisherman’s Association
WFC	Whitehaven Fisherman’s Cooperative
WFPO	Western Fish Producers Organisation
WNMP	Welsh National Marine Plan

Units

Unit	Description
£	Pound sterling
kW	Kilowatt (power)

Unit	Description
kWh	Kilowatt hours
m	Metres
nm	Nautical mile (distance; 1 nm = 1.852 km)
t	Tonnes
%	Percentage

6 Commercial fisheries

6.1 Introduction

6.1.1 Overview

6.1.1.1 This chapter of the Environmental Statement presents the assessment of potential impacts of the Mona Offshore Wind Project on commercial fisheries. Specifically, this chapter considers the potential impact of the Mona Offshore Wind Project seaward of Mean High Water Springs (MHWS) during the construction, operations and maintenance, and decommissioning phases.

6.1.1.2 The assessment presented is informed by the following technical chapters:

- Volume 2, Chapter 2: Benthic subtidal and intertidal ecology of the Environmental Statement
- Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement
- Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement
- Volume 2, Chapter 10: Other sea users of the Environmental Statement
- Volume 4, Chapter 3: Socio-economics of the Environmental Statement.

6.1.1.3 This chapter also draws upon information contained within Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.

6.1.1.4 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 – potential impacts on these receptors are assessed in Volume 4, Chapter 3: Socio-economics and community of the Environmental Statement.

6.1.2 Purpose of chapter

6.1.2.1 The primary purpose of the Environmental Statement is outlined in Volume 1, Chapter 1: Introduction of the Environmental Statement. In summary, the primary purpose of a final Environmental Statement is to support the Development Consent Order (DCO) application for the Mona Offshore Wind Project under the Planning Act 2008 (the 2008 Act). This Environmental Statement constitutes the environmental information for the Mona Offshore Wind Project and sets out the findings of the Environmental Impact Assessment (EIA), which will accompany the application to the Secretary of State for Development Consent.

6.1.2.2 In April 2023, the Preliminary Environmental Information Report (PEIR) for the Mona Offshore Wind Project was published to support the pre-application consultation activities required under the 2008 Act, which lasted for 47 days and concluded on 4 June 2023. Comments received on the PEIR have been reviewed and incorporated (where appropriate) into this Environmental Statement.

6.1.2.3 Specifically, this Environmental Statement chapter:

- Presents the existing environmental baseline established from desk studies, site-specific surveys and consultation with key commercial fisheries stakeholders
- Identifies any assumptions and limitations encountered in compiling the environmental baseline information

- Presents the potential environmental effects of the Mona Offshore Wind Project on commercial fisheries, based on the information gathered and the analysis and assessments undertaken as part of the EIA process
- Highlights any necessary monitoring and/or mitigation measures which could prevent, minimise, reduce or offset the possible environmental effects of the Mona Offshore Wind Project on commercial fisheries.

6.1.3 Study area

6.1.3.1 The Mona Offshore Wind Project is 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 Mona Array Area (illustrated on Figure 6.1) will be located within ICES Rectangle 36E5 and 36E6, and the Mona Offshore Cable Corridor (also illustrated Figure 6.1) will be located within 35E6 and 36E6. The Mona Array Area and the Mona Offshore Cable Corridor are located wholly within Welsh territorial waters (Figure 6.1).

6.1.3.2 A broad commercial fisheries study area has been defined for the purposes of this Environmental Statement 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 Mona Offshore Wind Project on commercial fisheries are fully assessed. Therefore, for the purposes of this Environmental Statement chapter, the commercial fisheries study area is defined as ICES Rectangles 35E5, 35E6, 36E5 and 36E6.

6.1.3.3 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 is larger than the commercial fisheries study area used. This larger cumulative commercial fisheries study area is defined by ICES rectangles 35E5, 35E6, 35E7, 36E5, 36E6, 36E7, 37E5, 37E6 and 37E7. This wider study area will ensure that relevant regional fishing grounds, for a range of different fishing fleets, are fully assessed as part of the CEA.

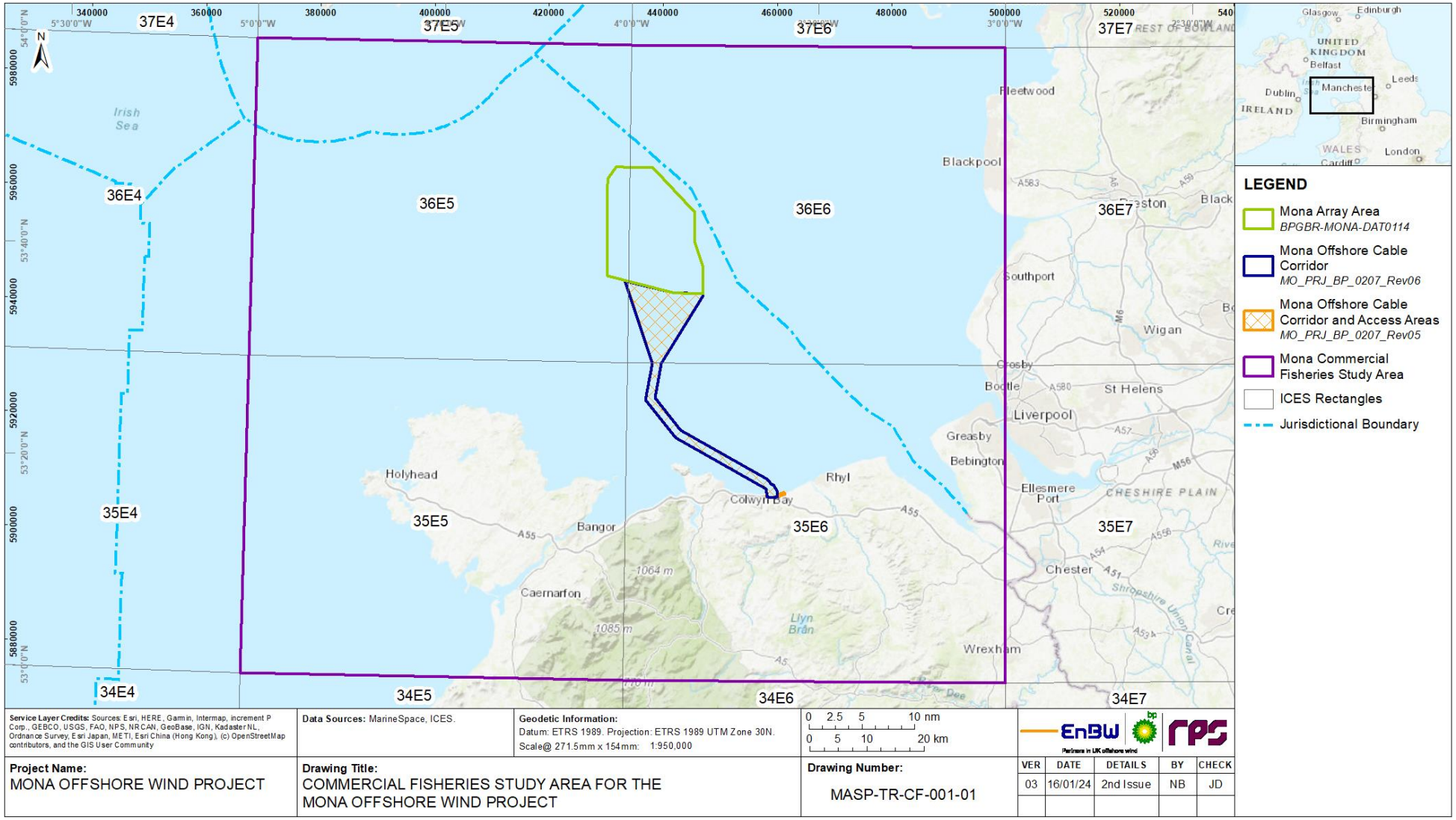

Figure 6.1: Commercial fisheries study area.

6.2 Policy context

6.2.1 National Policy Statements

6.2.1.1 Planning policy on renewable energy infrastructure is presented in Volume 1, Chapter 2: Policy and legislation of the Environmental Statement. There are currently six energy National Policy Statements (NPSs), three of which contain policy relevant to offshore wind development and the Mona Offshore Wind Project, specifically:

- Overarching NPS for Energy (NPS EN-1) which sets out the 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).

6.2.1.2 Planning policy relevant to offshore renewable energy Nationally Significant Infrastructure Projects (NSIPs), is contained in the Overarching NPS for Renewable Energy Infrastructure (NPS EN-3, Department for Energy Security & Net Zero, 2024b). NPS EN-3 includes specific policy statements for commercial fisheries. A review of the Overarching NPSs for Energy (NPS EN-1; Department for Energy Security & Net Zero, 2024a) and Electrical Networks (NPS EN-5, Department for Energy Security & Net Zero, 2024c) have been undertaken and there are no specific references to commercial fisheries within these documents.

6.2.1.3 NPS EN-3 includes guidance on those matters that are to be considered in any assessment of an offshore renewable energy project. These are summarised in Table 6.1 below. 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 6.2 below.

Table 6.1: Summary of the NPS EN-3 provisions relevant to commercial fisheries.

NPS EN-3 provision	How and where considered in the Environmental Statement
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. A total of six main receptor groups have been defined. These have been categorised based on gear type, nature of fishing activity and nationality and are summarised in Table 6.8. Displacement of commercial fisheries into other areas have been assessed for all phases of the Mona Offshore Wind Project (section 6.8.3).
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), Department for Environment, Food & Rural Affairs (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.	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 good practice guidance outlined in section 6.5.1. Early engagement was established with fisheries stakeholders in June 2021 and will continue throughout the lifetime of the project (see section 6.3). To communicate the commitments and measures by the Mona Offshore Wind Project to co-exist with the fishing industry and reduce impacts on commercial fisheries as far as practicably

NPS EN-3 provision	How and where considered in the Environmental Statement
(paragraph 2.8.154 of NPS EN-3)	possible, the Applicant has committed to the development of a Fisheries Liaison and Co-existence Plan which is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence. An outline of this plan has been included with the Application (Document Reference: J10).
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 Mona Offshore Wind Project and is summarised in section 6.3, with further information in Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement and the Consultation Report, 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 Mona Offshore Wind Project have been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement. Potential impacts on the commercial fisheries that target the fish stocks are assessed in section 6.8.6.41 of this Chapter Potential impacts to commercial fisheries have been described in section 6.8, and cumulative effects are described in section 6.9.
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. 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 Environmental Statement 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 6.6 and Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement. Likely constraints associated with the Mona Offshore Wind Project are assessed in section 6.6.
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 good practice guidance outlined in section 6.5.1. To communicate the commitments and measures by the Mona Offshore Wind Project to co-exist with the fishing industry and reduce impacts on commercial fisheries as far as practicably possible, the Applicant has committed to the development of a Fisheries Liaison and Co-existence Plan, which is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence. An outline of this plan has been included with the Application (Document Reference: J10).

NPS EN-3 provision	How and where considered in the Environmental Statement
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 issues have been described in section 6.11, 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)	Implications from the implementation of safety zones on commercial fishing have been presented in section 6.8. Safety zones are included within the Rochdale Design Envelope and have been considered within Volume 2, Chapter 7: Shipping and navigation and Volume 6, Annex 7.1: Navigational Risk Assessment of the Environmental Statement. More information on the implemented safety zones is provided in Table 6.13.
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)	
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 (MCA) as part of this process. (paragraph 2.8.164 of NPS EN-3)	

Table 6.2: Summary of NPS EN-3 policy on decision making relevant to commercial fisheries.

NPS EN-3 provision	How and where considered in the Environmental Statement
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 Mona Offshore Wind Project have been discussed with statutory bodies during consultation. The Applicant is taking, and will continue to, take steps to minimise the effects upon the industry in the area through appropriate mitigation, where required (see section 6.7). To communicate the commitments and measures by the Mona Offshore Wind Project to co-exist with the fishing industry and reduce impacts on commercial fisheries as far as practicably possible, the Applicant has committed to the development of a Fisheries Liaison and Co-existence Plan, which is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence. An outline of this plan has been included with the Application (Document Reference: J10). Potential impacts to fish stocks arising from the Mona Offshore Wind Project have been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement. Potential impacts on the commercial fisheries that target the fish stocks are assessed in section 6.8.6.41 of this Chapter

NPS EN-3 provision	How and where considered in the Environmental Statement
	Potential impacts to commercial fisheries have been described in section 6.8, and cumulative effects are described in section 6.9.
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 Applicant has considered the extent to which the Mona Offshore Wind Project will overlap with recognised fishing grounds and has 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 6.8).
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 6.8, and cumulative effects are described in section 6.9. Each potential impact within these assessments have been assessed separately for each identified receptor group (Table 6.8) and phase of the Mona Offshore Wind Project.
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 co-exist successfully. (paragraph 2.8.322 of NPS EN-3)	The Applicant is 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 was established with fisheries stakeholders in June 2021 and will continue throughout the lifetime of the project (see section 6.3). Liaison with the fishing industry, via the CFLO and FIR, is being adhered to in line with the good practice guidance outlined in section 6.5.1. To communicate the commitments and measures by the Mona Offshore Wind Project to co-exist with the fishing industry and reduce impacts on commercial fisheries as far as practicably possible, the Applicant has committed to the development of a Fisheries Liaison and Co-existence Plan, which is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence. An outline of this plan has been included with the Application (Document Reference: J10).
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 and NRW and the relevant Welsh Government policy team in Wales. (paragraph 2.8.250 of NPS EN-3)	Consultation is an important aspect of the assessment of potential impacts on commercial fisheries for the Mona Offshore Wind Project and any related mitigation. Early engagement was established with fisheries stakeholders in June 2021 and will continue throughout the lifetime of the project (see section 6.3). A Fisheries Liaison and Coexistence Plan is being developed by the Applicant through ongoing consultation with fisheries stakeholders. An outline of this plan has been included with the Application (Document Reference: J10).
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 section 6.7.

NPS EN-3 provision	How and where considered in the Environmental Statement
The Secretary of State will need to consider the extent to which disruption to the fishing industry, whether short term during construction (e.g. surveying) 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 FIRs and stakeholders of the fishing community, where disruption is anticipated (see section 6.7 and 6.8).

6.2.2 Welsh National Marine Plan

6.2.2.1 The Welsh National Marine Plan (WNMP) was published in November 2019 and introduces a framework to support sustainable decision making for the marine environment. The WNMP includes policies specific to the renewable energy sector.

6.2.2.2 The following key objectives of the WNMP are of direct relevance to commercial fisheries:

- Objective 4: "*Provide space to support existing and future economic activity through managing multiple uses, encouraging the co-existence of compatible activities, the mitigation of conflicts between users and, where possible, by reducing the displacement of existing activities*"
- Objective 11: "*Maintain and enhance the resilience of marine ecosystems and the benefits they provide in order to meet the needs of present and future generations*".

6.2.2.3 Key provisions are set out in Table 6.3 along with details as to how these have been addressed within the assessment.

Table 6.3: Welsh National Marine Plan policies of relevance to commercial fisheries.

Policy	Key provisions	How and where considered in the Environmental Statement
GOV_01: Cumulative effects	Proposals should demonstrate that they have assessed potential cumulative effects and, in order of preference: a. Avoid adverse effects; and/or b. Minimise effects where they cannot be avoided; and/or c. Mitigate effects where they cannot be minimised. If significant adverse effects cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding. Proposals that contribute to positive	Cumulative impacts on commercial fisheries are assessed in section 6.10.

Policy	Key provisions	How and where considered in the Environmental Statement
	cumulative effects are encouraged.	
GOV_02: Cross-border and plan compatibility	It seeks to ensure that development decisions contribute to the sustainable use of Welsh seas while optimizing benefits and minimizing adverse impacts on activities and interests in neighbouring jurisdictions.	Cross-border impacts on commercial fisheries are assessed in sections 6.8 and 6.11.
SAF_01: Safeguarding existing activity	Proposals likely to have significant adverse impacts upon an established activity must demonstrate how they will address compatibility issues with that activity.	Impacts on commercial fisheries that may arise from the Mona Offshore Wind Project have been assessed in this Chapter (section 6.8).
ECON_02: Co-existence	Proposals should demonstrate how they have considered opportunities for co-existence with other compatible sectors in order to optimize the value and use of the marine area and marine natural resources.	Co-existence impacts are assessed in Volume 4, Chapter 3: Socio-economics, and community in Volume 2, Chapter 11: Inter-related effects (offshore) of the Environmental Statement.
ENV_07: Fish Species and Habitats	Proposals potentially affecting important feeding, breeding (including spawning and nursery) and migration areas or habitats for key fish and shellfish species of commercial or ecological importance should demonstrate how they, in order of preference: avoid adverse impacts on those areas; minimise adverse impacts where they cannot be avoided; mitigate adverse impacts where they cannot be minimised.	These impacts have been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
GOV_01: Cumulative effects	Proposals should demonstrate that they have assessed potential cumulative effects and, in order of preference: a. Avoid adverse effects; and/or b. Minimise effects where they cannot be avoided; and/or c. Mitigate effects where they cannot be minimised. If significant adverse effects cannot be adequately	Cumulative impacts on commercial fisheries are assessed in section 6.10.

Policy	Key provisions	How and where considered in the Environmental Statement
	addressed, proposals should present a clear and convincing justification for proceeding. Proposals that contribute to positive cumulative effects are encouraged.	

6.2.3 North West Inshore and North West Offshore Coast Marine Plans

6.2.3.1 The assessment of potential impacts to commercial fisheries has also been made with consideration to the specific policies set out in the North West Inshore and North West Offshore Coast Marine Plans (MMO, 2021b). Key provisions contained within these plans are set out in Table 6.4, along with details as to how these have been addressed within this assessment.

Table 6.4: North West Inshore and North West Offshore Marine Plan policies of relevant to commercial fisheries.

Policy	Key provisions	How and where considered in the Environmental Statement
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 Applicant is 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 6.7.
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 Mona Offshore Wind Project assessment has considered the impacts on fish stocks in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement; 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	Cumulative impacts on commercial fisheries are assessed in section 6.10.

Policy	Key provisions	How and where considered in the Environmental Statement
	c. Mitigate – adverse cumulative and/or in-combination effects so they are no longer significant.	
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 Applicant is taking and will continue to take steps to minimise the impacts upon the fishing industry in the area through appropriate mitigation where required. Designed-in measures related to commercial fisheries are provided in section 6.7, and include a commitment to develop a Fisheries Liaison and Co-existence Plan, which is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence. An outline of this plan has been included with the Application (Document Reference: J10).

6.3 Consultation

6.3.1.1 The Applicant is committed to open, constructive, collaborative and solutions-focused consultation with commercial fisheries stakeholders. MarineSpace provides the role of CFLO on behalf of the Applicant.

6.3.1.2 Informal consultation has been undertaken with key local and regional fisheries stakeholders since June 2021, to date. Consultations have continued over the pre-application phase of the Mona Offshore Wind Project, ensuring that relevant information from fisheries stakeholders is presented within this Environmental Statement. It is also intended to ensure engagement continues past the submission of the application for development consent through to the construction and operations and maintenance phases of the Mona Offshore Wind Project.

6.3.1.3 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 Mona Offshore Wind Project, which have been undertaken in 2021, 2022 and 2023.

6.3.1.4 The Scoping Report for the Mona Offshore Wind Project was submitted in May 2022 to The Planning Inspectorate and Natural Resources Wales (NRW). Following consultation, the Scoping Opinion was received in June 2022, and responses relevant to commercial fisheries are outlined in Table 6.5.

6.3.1.5 The Applicant published a PEIR and commenced formal statutory consultation under Section 42 of the Planning Act 2008, which commenced in April and concluded in June 2023. The PEIR was published to support statutory consultation. Table 6.5 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 Environmental Statement.

6.3.1.6 A summary of the key issues specific to commercial fisheries raised during consultation activities undertaken to date is presented in Table 6.5. Table 6.5 also lists how these issues have been considered in the production of this Environmental Statement chapter. Further detail is presented within Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement. Information

from consultees has been used to inform the baseline in Section Table 6.5 and Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.

Table 6.5: Summary of key consultation issues relevant to commercial fisheries raised during consultation activities undertaken for the Mona Offshore Wind Project.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were 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) Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phase. Scallop vessel representatives stated that they would require greater spacing of wind turbines • Queries regarding cumulative impacts with other activities and developments in the region • Queries regarding impacts on fish stocks • Long-term datasets were recommended where possible, particularly due to the dynamic nature of queen scallop beds.	• Feedback from consultees regarding fishing activity has been presented within the baseline and has fed into the design process where possible. Feedback from ongoing consultation on fishing activity will be detailed throughout Table 6.5, which will be submitted at Application • Cumulative effects have been assessed in section 6.10 • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement • Ten year datasets have been obtained for landings statistics and Vessel Monitoring System (VMS) data, as outlined in section 6.4.
June 2021	Scottish Fishermen's Federation (SFF); Scottish White Fish Producers Association (SWFPA); and West Coast Sea Products Ltd (WCSP) Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phase. Scallop vessels would require greater spacing of wind turbines.	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible. Feedback from ongoing consultation on fishing activity will be detailed throughout Table 6.5, which will be submitted at Application.
July 2021	Anglo-North Irish Fish Producers Organisation (ANIFPO); Northern Ireland Fish Producers' Organisation (NIFPO); and Rederscentrale Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phase. Belgian vessel representatives stated that they would not fish between wind turbines, so preference for closer spacing to minimise overall area of sea affected by the Mona Array Area • Queries regarding cumulative and in-combination impacts with other activities and developments in the region	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible. Feedback from ongoing consultation on fishing activity will be detailed throughout Table 6.5, which will be submitted at Application • Cumulative effects have been assessed in section 6.10

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
		• Queries regarding impacts on fish stocks.	• Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
July 2021	NFFO Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phases • Queries regarding cumulative and in-combination impacts with other activities and developments.	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible. Feedback from ongoing consultation on fishing activity will be detailed throughout Table 6.5, which will be submitted at Application • Cumulative effects have been assessed in section 6.10.
February 2022	MFPO, NFFO and WFC Consultation meeting.	• Queries regarding the interconnectivity of scallop stocks in the region and potential impacts • Discussion regarding inter-array cable layout (and burial depth) to allow scallop fishing during operations and maintenance phase.	• The impact on scallop stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement • Information was collated from stakeholders on gear penetration depth. Cables will be buried where possible (target depth of 1 m) and in areas where this is not achievable the cable will be protected (section 6.7). Loss of fishing grounds and snagging risk are assessed in section 6.8.
February 2022	ANIFPO, Rederscentrale and WFPO Consultation meeting.	• Queries regarding cumulative and in-combination impacts with other activities and developments • Queries regarding impacts on fish stocks • Queries that VMS data does not capture smaller vessels.	• Cumulative effects have been assessed in section 6.10 • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement • 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 6.4 and Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement), multiple datasets have been collated which capture vessels

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
			<15 m in length. For example: consultation is being 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.
February 2022	SFF, SWFPA and WCSP Consultation meeting.	• Discussion regarding location of offshore booster substation to cause least disruption to fisheries • Queries that VMS and Automatic Identification System (AIS) data does not capture smaller vessels • Queries regarding impact to scallop grounds due to the array layout and export cable route.	• The offshore booster substation was removed from the Rochdale Design Envelope • It is acknowledged that there is a lack of data for vessels <15 m in length. See comment above regarding the same concern • A fisheries questionnaire was issued to collate information from consultees regarding design principles and co-existence. Further meetings were also held in November and December 2022 to discuss. Feedback from consultees has been collated and fed into the design process where possible (Table 6.13).
March 2022	Welsh Government (WG) Consultation meeting.	• Issues with VMS data not capturing smaller vessels.	• See comment above regarding the same concern.
June 2022	The Planning Inspectorate Scoping Opinion.	• The influence of noise impacts on commercial fisheries (i.e. as a result of impacts to targeted species) should be clearly explained and assessed within the Environmental Statement.	• This impact has been considered in section 6.8.7.
June 2022	The Planning Inspectorate Scoping Opinion.	• The Planning Inspectorate agrees that the following impact can be scoped out: increased steaming distances during the operations and maintenance phase (Mona Array Area).	• This impact is scoped out of the impact assessment (section 6.8).
June 2022	The Planning Inspectorate Scoping Opinion.	• The Planning Inspectorate agrees that the following impact can be scoped out: interference with fishing activity during the operations and maintenance phase (Mona Offshore Cable Corridor).	• This impact is scoped out of the impact assessment (section 6.8).

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
June 2022	The Planning Inspectorate Scoping Opinion.	• The Planning Inspectorate agrees that the following impact can be scoped out: increase in steaming distances (all phases) (Mona Offshore Cable Corridor).	• This impact is scoped out of the impact assessment (section 6.8).
June 2022	The Planning Inspectorate Scoping Opinion response.	• Displacement of fishing activity into other areas (Mona Array Area): • The Environmental Statement should clearly define the duration of temporary impacts and distinguish between true short term temporary effects and those that are longer term and reversible.	• The impact assessment (section 6.8) clarifies where a potential effect is short-term or longer-term, and the magnitude quantifies the duration of the impact.
June 2022	The Planning Inspectorate Scoping Opinion response.	• The Environmental Statement should assess the potential for the introduction of hard substrate and vessel movements to facilitate the spread of INNS (e.g. via ballast water and through accidents and spillages) and the potential for impacts upon commercial fisheries, where significant effects are likely to occur • Where significant effects are likely to occur, the Environmental Statement should also consider the potential for climate change-related effects to facilitate the spread and exacerbate the impacts of INNS.	• This impact is considered in Volume 2, Chapter 2: Benthic subtidal and intertidal ecology of the Environmental Statement and section 6.8.
June 2022	The Planning Inspectorate Scoping Opinion response.	• Impacts from increased vessel activity: this aspect chapter of the Scoping Report does not propose to assess impacts from increased vessel activity, for example collision and allision risk. The Inspectorate expects appropriate cross reference to be made to the Shipping and navigation chapter of the Environmental Statement to ensure that all potential impacts on commercial fisheries are assessed.	• These impacts are considered in Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement and section 6.8.
June 2022	The Planning Inspectorate	• The impact on economic receptors: whilst the Inspectorate acknowledges the potential for positive economic impacts on employment and	• This has been considered as part of the impact assessment in section 6.8. The approach for considering potential impacts of the Mona

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	Scoping Opinion response.	supply chain, the Environmental Statement should also identify and assess any negative economic impacts, for example to commercial fisheries, where significant effects are likely to occur.	Offshore Wind Project on commercial operators is set out within Volume 4, Chapter 3: Socio-economics of the Environmental Statement.
June 2022	Isle of Man (IoM) Department of Infrastructure Scoping Opinion response.	• Queries in relation to transboundary stocks and reproductive connectivity between stocks in different jurisdictional areas.	• Trans-boundary effects on commercial fisheries receptors have been assessed in section 6.8; trans-boundary effects on fish and shellfish receptors have been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
June 2022	IoM Department of Infrastructure Scoping Opinion response.	• Recommendation for a wider study area for commercial fisheries, and suggestion to include ICES rectangles 37E5 and 37E6, 35E5 and 35E6, with others potentially added following consultation.	• Following comments from the IoM Department of Infrastructure, the commercial fisheries study area used for assessment in this report has been defined by ICES rectangles 35E5, 35E6, 36E5 and 36E6. The cumulative commercial fisheries study area consists of 35E5, 35E6, 35E7, 36E5, 36E6, 36E7, 37E5, 37E6 and 37E7. This is considered an appropriate extent for assessing the potential impacts on commercial fisheries receptors as a result of the Mona Offshore Wind Project and any cumulative impacts. Impacts on fish stocks have been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement; the fish and shellfish study area covers the east Irish Sea to account for the spatial and temporal variability of fish and shellfish populations.
November 2022	Individual static gear operator from Fleetwood Consultation meeting.	• Queries regarding noise impacts on whelk • Queries regarding array layout and co-existence during the operations and maintenance phase. Static gear vessels lay gear in a north - south alignment within the Mona Array Area. Preference for equally spaced wind turbines in rows and as far apart as possible.	• Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement • Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible.

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			• Engagement has continued with Commercial Fisheries stakeholders since 2022 to discuss these key issues. Meetings were undertaken in September 2023 to discuss the response to the statutory consultation and to present a number of project changes and commitments being made by the Applicant to reduce potential impacts on commercial fisheries activities and promote. The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10)
November 2022	SFF, SWFPA and WCSP. Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phase. Noted higher density queen scallop ground in the central part of the Mona Array Area. Fishing vessels generally tow in a north – south orientation • Discussion regarding inter-array cable layout and burial depth to allow scallop fishing during operations and maintenance phase. Gear penetration can vary between 0.05-0.25 m • Queries regarding impacts on scallop stocks as a result of changes to tidal flow from the installation of wind turbines.	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible. • Engagement has continued with Commercial Fisheries stakeholders since 2022 to discuss these key issues. Meetings were undertaken in September 2023 to discuss the response to the statutory consultation and to present a number of project changes and commitments being made by the Applicant to reduce potential impacts on commercial fisheries activities and promote. The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10) • Cables will be buried where possible (target depth of 1 m) and in areas where this is not achievable the cable will be protected (section 6.7). Loss of fishing grounds and snagging risk are assessed in section 6.8

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			• Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
November 2022	MFPO Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phase. Noted that the Manx fishing vessels only use approximately 100ft of cable, so are able to fish between wind turbines • Discussion regarding inter-array cable layout and burial depth to allow scallop fishing during operations and maintenance phase • Queries regarding impacts on scallop stocks as a result of construction and changes to tidal flow from the wind turbines and foundations.	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible. • Engagement has continued with Commercial Fisheries stakeholders since 2022 to discuss these key issues. Meetings were undertaken in September 2023 to discuss the response to the statutory consultation and to present a number of project changes and commitments being made by the Applicant to reduce potential impacts on commercial fisheries activities and promote. The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10) • Cables will be buried where possible (target depth of 1 m) and in areas where this is not achievable the cable will be protected (section 6.7). Loss of fishing grounds and snagging risk are assessed in section 6.8 • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
November 2022	Rederscentrale Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phase. Noted that fishing between wind turbines of 1 km is difficult due to safety reasons. Noted that Rederscentrale vessels do not fish within the	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible. • Engagement has continued with Commercial Fisheries stakeholders since 2022 to discuss these key issues. Meetings were undertaken in

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		Mona Array area; their fishing activity is mostly to the south of the Mona Array Area • Discussion regarding inter-array cable layout and burial depth. 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.	September 2023 to discuss the response to the statutory consultation and to present a number of project changes and commitments being made by the Applicant to reduce potential impacts on commercial fisheries activities and promote. The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10) • Cables will be buried where possible (target depth of 1 m) and in areas where this is not achievable the cable will be protected (section 6.7). Loss of fishing grounds and snagging risk are assessed in section 6.8.
November 2022	ANIFPO, NIFPO, WFA Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phase. Orientation of wind turbines in a north – south alignment would be preferable • Queries regarding timings of surveys to minimise impacts on fish stocks • Queries that VMS data does not capture smaller vessels.	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible. • Engagement has continued with Commercial Fisheries stakeholders since 2022 in order to discuss these key issues. Meetings were undertaken in September 2023 to discuss the response to the statutory consultation and to present a number of project changes and commitments being made by the Applicant to reduce potential impacts on commercial fisheries activities and promote. The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10) • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
			• 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 6.4 and Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement), multiple datasets have been collated which capture vessels <15 m in length. For example: consultation is being 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.
November 2022	ISEFPO Consultation meeting.	• Queries regarding spacing arrangements of infrastructure and co-existence during the operations and maintenance phase • Discussion regarding inter-array cable layout and burial depth and concerns regarding snagging.	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible • Engagement has continued with Commercial Fisheries stakeholders since 2022 to discuss these key issues. Meetings were undertaken in September 2023 to discuss the response to the statutory consultation and to present a number of project changes and commitments being made by the Applicant to reduce potential impacts on commercial fisheries activities and promote. The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10) • Cables will be buried where possible (target depth of 1 m) and in areas where this is not achievable the cable will be protected (section 6.7). Loss of fishing grounds and snagging risk are assessed in section 6.8.

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November 2022	Individual fishing operators from Conwy	• Queries regarding co-existence during the operations and maintenance phase, particularly related to the Mona Offshore Cable Corridor, due to the areas of fishing activity • Queries regarding spatial squeeze on fishing vessels due to changes in ferry routes as a result of the Mona Array Area • Queries regarding impacts on fish stocks.	• Feedback from consultees regarding fishing activity has been presented within the baseline and fed into the design process where possible. • Engagement has continued with Commercial Fisheries stakeholders since 2022 to discuss these key issues. discuss the response to the statutory consultation and to present a number of project changes and commitments being made by the Applicant to reduce potential impacts on commercial fisheries activities and promote. The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10 • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
May 2023	Individual fishing operators from Lytham Public consultation meetings.	• Group of 5 fishermen in Lytham • Fish for mussels and flat fish from the sea wall at Lytham • Queries regarding impacts on fish stocks during construction.	• Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
June 2023	MMO S42 Responses (summarised)	• Due to fishing policies, many fishing vessels will be excluded from fishing within the windfarm site, even if it is deemed acceptable by the operator. The MMO recommends this be taken into account when considerations are made for the Fisheries Liaison and Co-existence Plan and justifiable disturbance payments • Commercial fishing activity should be considered in conjunction with the cumulative effects on commercial shipping routes as spatial squeeze	• The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.14 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10). Ongoing liaison with commercial fisheries stakeholders will continue and provide warning prior to construction activities taking place. A process for managing and communicating the use of rolling safety zones will be developed

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		will bring higher likelihood of cross industry conflict in terms of access and potential gear conflicts in areas surrounding the windfarm site. Gear conflicts between differing types of fishing vessels may also increase, due to fishing grounds being diminished by windfarm projects and associated diverted commercial traffic • The Mooir Vannin Offshore Windfarm should be included within the Cumulative Effects Assessment.	post-consent once the construction programme has been finalised and will be set out in the Fisheries Liaison and Co-existence Plan, prepared post-consent • The 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 6.10). The cumulative effects on commercial shipping routes are assessed within Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement • The Mooir Vannin Offshore Windfarm has been included as a Tier 3 project within section 6.10.
June 2023	SFF, SWFPA and WCSP S42 Responses (summarised)	• Fishing activity from 2022-2023 is the same as presented Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement (Figure 1.56) • Potential co-existence options: position of wind turbines and inter-array cables away from tows; north to south routing of inter-array cables; tightly packed wind turbines around array boundary and fewer larger wind turbines within the array; cable protection material to be similar to the seabed substrate; phased approach to construction and avoiding queen scallop fishing area.	• Engagement has since continued with Commercial Fisheries stakeholders in order to discuss these key issues. Meetings were undertaken in September 2023 to discuss the response to the statutory consultation and to present a number of project changes and commitments being made by the Applicant to reduce potential impacts on commercial fisheries activities and promote. The project changes and commitments and how they may facilitate co-existence and co-location are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10) • This Environmental Statement is based on these project changes and commitments and the eventual ability for vessels to fish in the Mona Array Area during the Operational phase has influenced determination of the magnitude of impact and significance of effect (section 6.7).

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
June 2023	IoM Government S42 Responses (summarised)	• Commented that not all datasets include vessels <12 m in length, particularly IoM vessels, and noted importance of capturing fishing activity for this group. All IoM mobile gear vessels have VMS fitted. Data for IoM vessels could be obtained from various sources, including IoM Government, MFPO or Manx fishermen directly. Provided examples of data that could be requested from DEFA • While it is not expected to be comprehensive, restricted data presentation should be more thoroughly explained if the reports are to be considered reasonably representative and provide comfort of due consideration • Four year baseline is not sufficient to assess fisheries given the disruption between 2019-2022 resulting from Brexit, Covid-19 and the fuel/energy crisis • Correction to the number of scallop vessels registered in IoM and the number of vessels licenced to fish for scallops in IoM waters (including UK • Asked for clarification of which datasets include IoM vessels • Figure 1.46 of Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement appears overly selective and provides no context for the wider queen scallop fishery areas • Queried why Welsh data stopped at the IoM Territorial Sea Boundary • Noted that an estimated economic loss to businesses of 5-20 % is considered as low magnitude and no mitigation suggested.	• The Applicant has obtained relevant VMS data from the IoM Government. This data has now been incorporated into the commercial fisheries technical annex of the Environmental Statement and has been brought into the commercial fisheries assessment. This has been incorporated into Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement • Limitations of the data are discussed in section 6.4.7, 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 6.4.7 where the datasets are analysed • A 10 year data period has been obtained for both MMO and Scientific, Technical and Economic Committee (STECF) landings data and MMO and ICES VMS data, specifically to address the cyclical nature of fisheries • Figure 1.56 of Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement displays the indicative queen scallop grounds within the Mona Array Area, which has now been clarified in the title; this supplementary information has been included to inform the assessment on direct impacts as a result of the Mona Array Area • The dataset uses data obtained from Welsh Government (National Resource Wales), which focuses on Welsh waters and does not include IoM waters • The low magnitude of impact definition has been updated within Table 6.10 and within assessment of significant effects. The definition has been refined to now cover a

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
		• Queried what are the protocols to be followed are if an effect is observed during monitoring.	potential loss of revenue of between 5-10 %, 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, the array layouts presented and how these may affect fishing activity • Protocols will be reviewed and agreed once data gathering has been completed.
June 2023	NFFO and WFA S42 Responses (summarised)	• This chapter characterises the commercial fishing industry well and effort has been made to describe the fisheries using a variety of sources. However, there remain issues with how those 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 the east Irish Sea due to other projects and restrictions on mobile gear within Marine Conservation Zones (MCZs). Also noted the factors associated with the re-negotiation of the Trade and Cooperation Agreement which will affect fishing opportunities in the region. • Noted that an estimated economic loss to businesses of 5-20 % is considered as low magnitude and no mitigation suggested • Queried what are the protocols to be followed are if an effect is observed during monitoring.	• Limitations of the data are discussed in section 6.4.7, 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 6.4.7, where the datasets are analysed • The future baseline (section 6.4.6) considers these factors, which is then used to inform the assessment. CEA considers any proposed plans or projects. While restrictions within MPAs are also considered within the CEA, in the context of loss or restricted access to fishing grounds (section 6.10) • The low magnitude of impact definition has been updated within Table 6.10 and within assessment of significant effects. The definition has been refined to now cover a potential loss of revenue of between 5-10 %, 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, the array layouts

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
			presented and how these may affect fishing activity • Protocols will be reviewed and agreed once data gathering has been completed.
June 2023	NIFPO S42 Responses (summarised)	• Queries regarding underwater noise impacts to spawning herring and crustaceans • The NIFPO does not considered that the development of a Fisheries Liaison and Co-existence Plan will provide assurances over negligible or minor adverse impacts to commercial fisheries • Queried what additional mitigation is proposed • Queried if displacement to commercial fisheries is only assessed during the construction phase.	• Assessment of underwater noise on crustacean and fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement • The Applicant is 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. A Fisheries Liaison and Coexistence Plan is being developed by the Applicant through ongoing consultation with fisheries stakeholders. An outline of this plan has been included with the Application (Document Reference: J10), which displays the various fisheries mitigation and management measures the Applicant has committed to. • Potential displacement of commercial fisheries into other areas have been assessed for all phases of the Mona Offshore Wind Project (section 6.8.3).
June 2023	Individual fishing operator from Lytham S42 Responses (summarised)	• Group of 5 fishermen in Lytham • Fish for mussels and flat fish from the sea wall at Lytham • Queries regarding impacts on stocks during construction.	• Assessment of underwater noise on crustacean and fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
September 2023	SWFPA and WCSP (SFF invited but did not attend).	• 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 in areas of cables crossing in the Scallop Mitigation Zone	• Cables will be buried where possible (target burial depth of 1 m with a maximum burial depth of 3 m and minimum burial depth of 0.5 m) and in areas where this is not achievable the cable will be protected (section

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
	Consultation meeting – S42 response discussion and update on project changes and commitments.	(SMZ) and the impact this would have on the key scallop area within the Mona Array Area • Noted preference of no cables within the Mona Array Area SMZ.	6.7). Loss of fishing grounds and snagging risk are assessed in section 6.8.
September 2023	TN Trawlers. Consultation meeting – S42 response discussion and update on project changes and commitments.	• Regarding cable burial depth and fishing gear penetration depth, noted that scallop fishing gear tooth bars are 9-10 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.	• Cables will be buried where possible (target burial depth of 1 m with a maximum burial depth of 3 m and minimum burial depth of 0.5 m) and in areas where this is not achievable the cable will be protected (section 6.7). Loss of fishing grounds and snagging risk are assessed in section 6.8.
September 2023	MFPO and IoM Government. Consultation meeting – S42 response discussion and update on project changes and commitments.	• 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 IoM Territorial Sea for both king and queen scallop to protect spawning periods. King scallop: from 01 June to 31 October; and queen scallop from 01 April to 30 June • 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 Mona Offshore Wind Project is 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 rolling safety zones will be developed post-consent once the construction programme has been finalised and will be set out in the Fisheries Liaison & Co-Existence Plan prepared post-consent.
September 2023	Rederscentrale. Consultation meeting – S42 response discussion and update on project changes and commitments.	• Queries raised regarding rock protection in areas where the minimum burial depth of cable has not been achieved within the Mona Array Area	• Cables will be buried where possible (target burial depth of 1 m with a maximum burial depth of 3 m and minimum burial depth of 0.5 m) and in areas where this is not achievable the cable will be protected (section 6.7). Where cable protection is required on

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
		• Confirmed that 90% of the Belgian fleet active within the commercial fisheries study area deploy beam trawls using SumWing technology • Confirmed that sole is the target species.	cable crossings, locations will be marked accordingly. Loss of fishing grounds and snagging risk are assessed in section 6.8.
September 2023	NFFO, NFFO Services, WFC, P&M Fishing and the MMO. Consultation meeting – S42 response discussion and update on project changes and commitments.	• 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 Coexistence plan • Queries raised regarding displacement through cumulative development within the Irish Sea.	• The Mona Offshore Wind Project is 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 rolling safety zones will be developed post-consent once the construction programme has been finalised and will be set out in the Fisheries Liaison & Co-Existence Plan prepared post-consent • The cumulative commercial fisheries study area consists of 35E5, 35E6, 35E7, 36E5, 36E6, 36E7, 37E5, 37E6 and 37E7. This is considered an appropriate extent for assessing the potential displacement of commercial fisheries receptors as a result of the Mona Offshore Wind Project and other projects within the region cumulatively (section 6.10).
September 2023	Seafish and Individual fishing operators from Blackpool. Consultation meeting – S42 response discussion and update on project changes and commitments.	• Noted that a bass and Dover sole fishery is located further up the coast from the Mona Offshore Cable Corridor and raised a concern regarding the potential impact of underwater noise from the piling • Raised a concern regarding cable burial and the potential for a snagging risk • Queried the type of scour protection being considered and raised that limestone may be incompatible with mussel settlement.	• Assessment of underwater noise on fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement • Cables will be buried where possible (target burial depth of 1 m with a maximum burial depth of 3 m and minimum burial depth of 0.5 m) and in areas where this is not achievable the cable will be protected (section 6.7).Loss of fishing grounds and snagging risk are assessed in section 6.8 • Limestone is not being considered as a material for scour protection.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
September 2023	Individual fishing operators from Conwy Consultation meeting – S42 response discussion and update on project changes and commitments.	• Concern raised regarding displacement and spatial squeeze as a result of other projects within the Irish Sea • Noted that prices of production have increased, with therefore prices also having increased on shellfish • Queried whether the level of rock protection required for the Mona Offshore Cable Corridor is currently known • Raised a concern regarding noise impacts on fish species and stock.	• The cumulative commercial fisheries study area consists of 35E5, 35E6, 35E7, 36E5, 36E6, 36E7, 37E5, 37E6 and 37E7. This is considered an appropriate extent for assessing the potential displacement of commercial fisheries receptors as a result of the Mona Offshore Wind Project and other projects within the region cumulatively (section 6.10). • Assessment of underwater noise on fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement • Cables will be buried where possible (target burial depth of 1 m with a maximum burial depth of 3 m and minimum depth of 0.5 m) and in areas where this is not achievable the cable will be protected (section 6.7). Loss of fishing grounds and snagging risk are assessed in section 6.8.
October 2023	ISEFPO Consultation meeting – S42 response discussion and update on project changes and commitments.	• Queries raised regarding cable burial, rock protection and the potential for a snagging risk • Agreed to provide additional information on scallop grounds fished by Irish vessels.	• Cables will be buried where possible (target burial depth of 1 m with a minimum burial depth of 3 m and minimum depth of 0.5 m) and in areas where this is not achievable the cable will be protected (section 6.7).Loss of fishing grounds and snagging risk are assessed in section 6.8
October 2023	ANIFPO Consultation meeting – S42 response discussion and update on project changes and commitments.	• Queries raised in reference to a windfarm off Blackpool, where ANIFPO members were told that they were no longer allowed to fish within the Array Area • Queries raised regarding the cumulative impact on fisherman, policy changes that stop fishing within the array areas, leading to displacement to more confined areas	• Windfarm sites are classified as open sea, navigation rights are only excluded at the turbine position, fishing is permitted wind farm arrays • The cumulative commercial fisheries study area consists of 35E5, 35E6, 35E7, 36E5, 36E6, 36E7, 37E5, 37E6 and 37E7. This is considered an appropriate extent for assessing

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
		• Queries raised regarding the impact of windfarms on fish species and stocks. Species disappearing from site where they used to be prolific, concern raised of potential impact.	the potential displacement of commercial fisheries receptors as a result of the Mona Offshore Wind Project and other projects within the region cumulatively (section 6.10). There will be no restriction within the windfarm once operational, except for 500 m safety zones around vessels performing maintenance • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.
October 2023	NIFPO Consultation meeting – S42 response discussion and update on project changes and commitments.	• Queried whether there is differentiation between dredge or net fishing methods for queen scallop, highlighting that the effects would be different for each.	• Receptor groups on which the impact assessment is based have been defined in Table 6.8. These are defined based on nationality, gear type, target species and vessel length.

6.4 Baseline environment

6.4.1 Methodology to inform baseline

6.4.1.1 To characterise the baseline environment for commercial fisheries within the commercial fisheries study area (see section 6.1.3) a range of data sources was collated and reviewed, in addition to feedback from project-specific consultation and site-specific surveys. Further information is included within Volume 6, Annex 6.1: Commercial fisheries technical report.

6.4.1.2 Where possible, data has been collated for a 10 year period, as consultation feedback has indicated that the scallop fisheries in the area of the Mona Array Area are cyclical, over periods of seven to eight years. Therefore, effort has been made to try and capture this cyclical pattern in the data analysis presented here.

6.4.2 Desktop study

6.4.2.1 Information on commercial fisheries activity within the commercial fisheries study area was collected through a detailed desktop review of existing studies and datasets (Table 6.6), feedback from consultation (Table 6.5) and site-specific surveys (Table 6.7). Limitations and assumptions of the datasets are summarised in section 6.4.7 and outlined in further detail in Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.

Table 6.6: Summary of key desktop data sources/reports.

Title/Dataset	Source	Year	Author
Landing statistics by ICES Rectangle for UK and IoM vessels.	Marine Management Organisation (MMO)	2012 to 2022	MMO
Landings statistics by port.	MMO	2010 to 2022	MMO
Landings statistics by ICES Rectangle for European Union (EU) vessels.	European Union Scientific, Technical and Economic Committee for Fisheries (EU STECF)	2006 to 2016	EU STECF
VMS data for UK and IoM vessels (≥15 m).	MMO	2009 to 2020	MMO
VMS data for European mobile bottom contacting gear vessels (>12 m).	ICES	2009 to 2020	ICES
Estimated relative fishing activity (Welsh waters).	WNMP	2019	WNMP
ICES scallop assessment working group.	ICES	2019	ICES
Sea Fishing Atlas of Wales.	NRW	2010	NRW
IoM pot hauls	IoM Government, Department of Environment, Food & Agriculture (DEFA)	2010 to 2021	IoM Government, DEFA

Title/Dataset	Source	Year	Author
IoM swept area	IoM Government, DEFA	2017 to 2023	IoM Government, DEFA

Landing statistics

6.4.2.2 Species landing data is recorded by ICES Rectangle and collected via the EU logbook scheme. Landings data has been collated for the UK and EU Member states for all ICES Rectangles that overlap the Mona commercial fisheries study area, as illustrated in Figure 6.1.

6.4.2.3 Landings statistics were collated across a 10 year period from each country. Landing statistics include all landings by a country's nationally registered vessel into all ports. The following parameters were examined:

- Gear type
- Year
- ICES Rectangle
- Vessel length
- Species
- Landing port
- Value (£)
- Live weight (tonnes (t)).

Vessel monitoring system data

6.4.2.4 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 commercial fisheries 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.

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

6.4.2.6 King scallop and queen scallop swept area (km^2) data between 2017 to 2023 was collated from the IoM Government to provide an overview of the spatial extent of this fishing activity type within and around Manx territorial waters. All licenced 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 IS Boxes, which are used to collect data for the IoM Nest Forms Electronic Daily Scallop Catch Return.

6.4.2.7 Combined total crab and lobster pot haul, and whelk pot haul data was collated from the IoM 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.

6.4.3 Site-specific surveys

6.4.3.1 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 (see Table 6.7 for further details). A summary of the surveys that have been used to inform the commercial fisheries baseline environment (and subsequent impact assessment) is outlined in Table 6.7. Information on these surveys is discussed further in Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement. Limitations and assumptions of this data are summarised in section 6.4.7, and outlined in further detail in Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.

Table 6.7: 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	Mona Array Area plus 3 km buffer. Morgan Array Area plus 3 km buffer.	OFLO onboard the conventional geophysical and environmental survey vessel recorded observations of fishing vessels and fishing gear present.	NFFO	30 June to 18 September 2021	Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.
Winter vessel traffic survey 2021	Mona Array Area	AIS, radar and visual observations collected as part of the 14-day marine traffic survey, required as part of the Navigational Risk Assessment (NRA).	NASH Maritime	05 to 19 December 2021	Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement; Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement; and Volume 6, Annex 7.1: Navigational Risk Assessment of the Environmental Statement.
Scouting survey 2022	Mona Offshore Cable Corridor	Recordings of static gear via a targeted scouting survey undertaken prior to geophysical and environmental survey work within the Mona Offshore Cable Corridor.	NFFO	06 to 13 March 2022	Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.
Summer vessel traffic survey 2022	Mona Array Area	AIS, radar and visual observations collected as part of the 14-day marine traffic survey required as part of the NRA.	NASH Maritime	30 June to 14 July 2022	Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement; Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement; and Volume 6, Annex 7.1: Navigational Risk Assessment of the

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
					Environmental Statement.
OFLO observations 2022	Mona Array Area plus buffer area, Morgan buffer area and Mona Offshore Cable Corridor	OFLO onboard the conventional geophysical and environmental survey vessel recorded observations of fishing vessels and fishing gear present.	NFFO	01 April to 10 July 2022	Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.
MarineSpace observations 2022	Commercial fisheries study area	Fisheries monitoring using AIS data.	MarineSpace	10 July to 30 November 2022	Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.
Spring 2023 vessel traffic survey	Central north part of the Mona commercial fisheries study area.	AIS and radar.	NASH Maritime	04 May to 18 May 2023	Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement; Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement; and Volume 6, Annex 7.1: Navigational risk assessment of the Environmental Statement.
Winter 2023 vessel traffic survey	Mona commercial fisheries study area	AIS and radar.	NASH Maritime	27 October to 10 November 2023	Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement; Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement; and Volume 6, Annex 7.1: Navigational risk assessment of the Environmental Statement.

6.4.4 Baseline environment

6.4.4.1 Characterisation of the baseline environment for commercial fisheries is based upon the Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement and has been undertaken using the data sources listed in section 6.4.2 alongside feedback from consultation (section 6.3). Limitations of the data have been discussed fully in the Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement.

Overview of landings data

6.4.4.2 Data compiled by both the MMO (MMO, 2023a) and EU STECF[1] (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 commercial fisheries study area (ICES Rectangles 35E5, 35E6, 36E5 and 36E6). The Mona Array Area will be located in 36E5 and 36E6 (illustrated in Figure 6.1), and the Mona Offshore Cable Corridor will be located within 35E6 and 36E6 (also illustrated in Figure 6.1).

6.4.4.3 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 vessels (Figure 6.2 and Figure 6.3), with the highest landings from ICES Rectangle 36E5. Landings of demersal and pelagic species were considerably lower than shellfish. As expected, for UK vessels, the largest proportion of vessels was from the >10 m class (Figure 6.3); these vessels were predominantly from England, the IoM, Northern Ireland, Scotland and Wales. The smaller UK vessels were predominantly from Wales and England, reflecting the closer proximity of home ports to this fleet, with relatively small recordings of landings for IoM, Scottish and Northern Irish vessels.

6.4.4.4 Dredges accounted for approximately 72% of total landings by UK vessels from the commercial fisheries study area. This indicates the importance of the queen and king scallop fisheries in the region. Pots and traps (targeting crab, lobster and whelk) were also of notable importance in the commercial fisheries study area and consisted mostly of vessels >10 m in length.

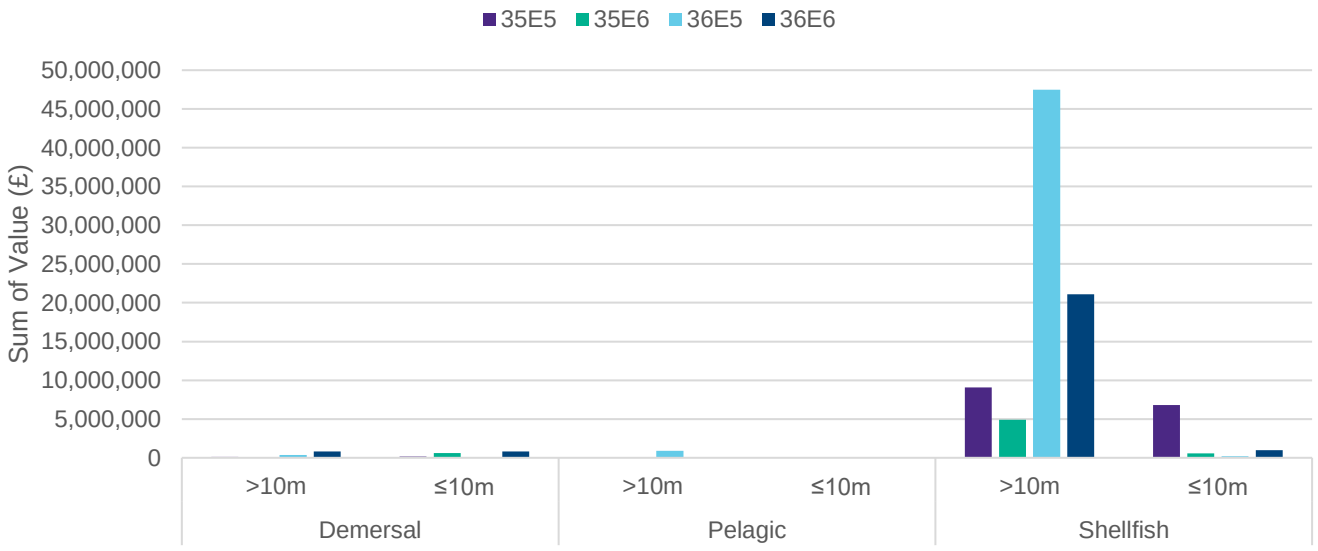

Figure 6.2: Sum of landed value (2012 to 2022) within the commercial fisheries study area, displayed by species group and vessel class (UK vessels)[2].

[1] 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.

[2] MMO, 2023a

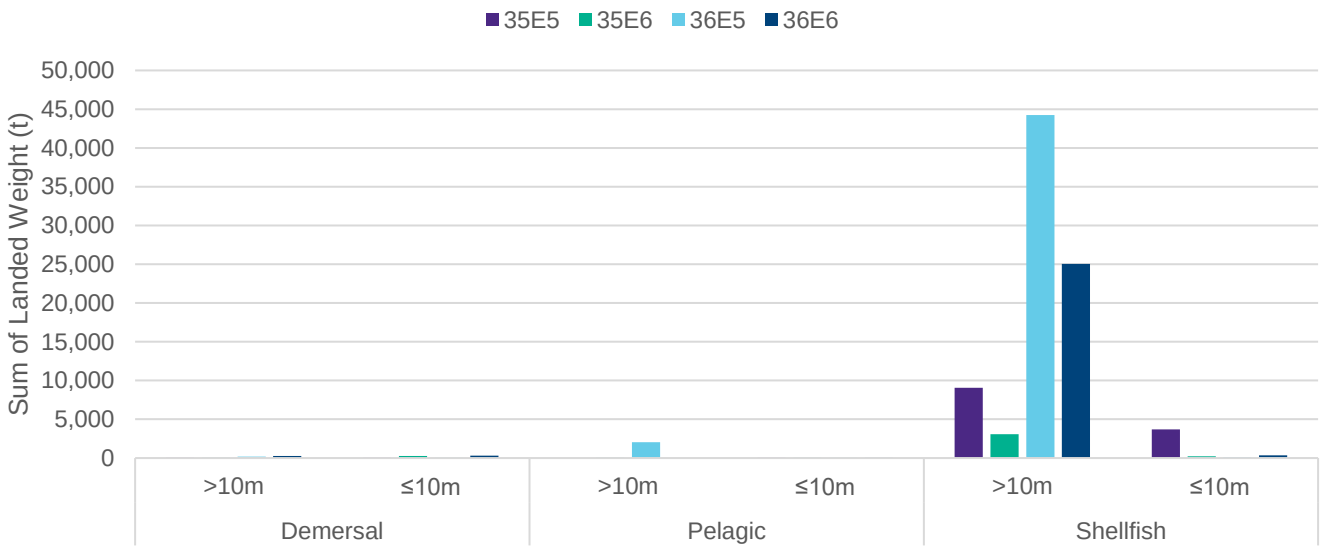

Figure 6.3: Sum of landed weight (2012 to 2022) within the commercial fisheries study area, displayed by species group and vessel class (UK vessels)[3].

6.4.4.5 The majority of total landings from non-UK vessels in the region were from vessels >15 m in length, from Belgium, Ireland and the Netherlands (Figure 6.4). The majority of non-UK vessels were utilising dredges and beam trawls. Key species were king scallop, common sole, European plaice and thornback ray. 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 and dredges, this suggests that other species may have been caught as bycatch during fishing for the main target species. Both beam and dredge gear types exhibit poor selectivity and hence tend to have high by-catch rates.

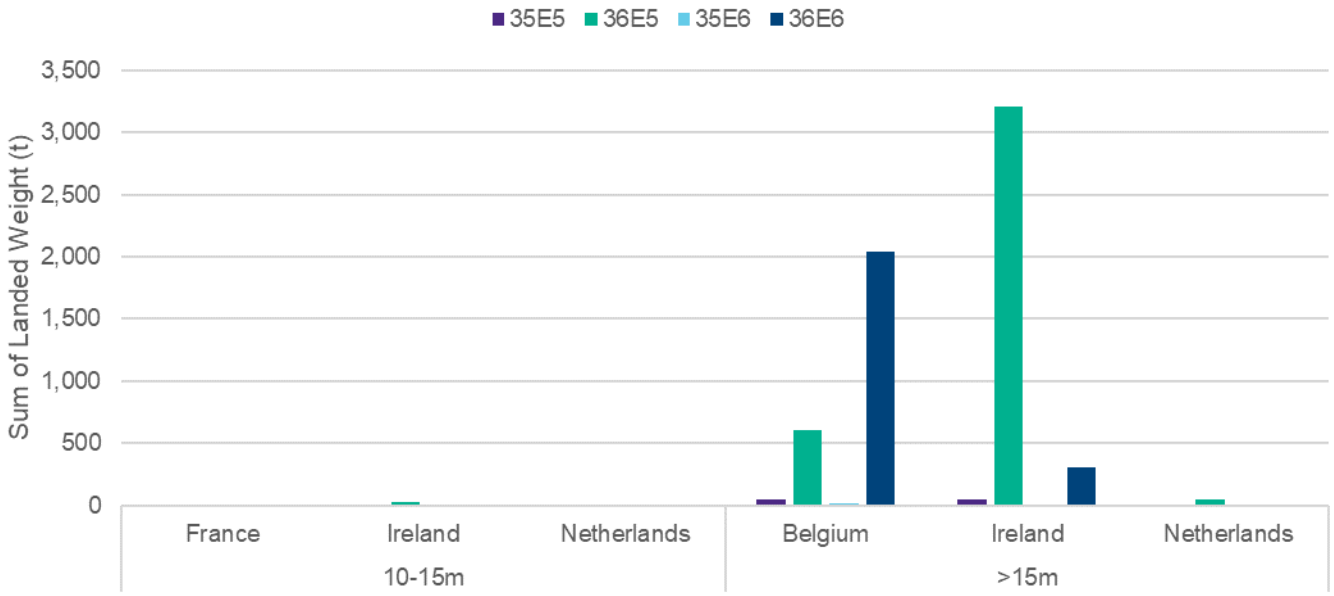

Figure 6.4: Sum of landed weight by vessel size class (2006-2016) within the commercial fisheries study area) (non-UK vessels)[4].

[3] MMO, 2023a

[4] EU STECF, 2017

Seasonal temporal change

6.4.4.6 In terms of intra-annual variation, landings varied for all species/vessels over the period, with a clear seasonal pattern of highest weight/value of landings between March and November each year (Figure 6.5).

6.4.4.7 For the top five species landed by UK vessels within the commercial fisheries study area (Figure 6.5), the following were the key periods for highest weight and value:

- Queen scallop – July to September
- King scallop – November to May
- Herring – May to September
- Whelk – May to July
- Lobster – June to August.

6.4.4.8 For the non-UK fleet, based on data presented only by quarter, the periods January to March and October to December appear to be the most important in terms of landings, especially for species such king scallop, common sole and thornback ray. July to September was the least productive quarter, likely due to seasonal scallop closures in the area. Notably, Atlantic herring was only caught between July to September.

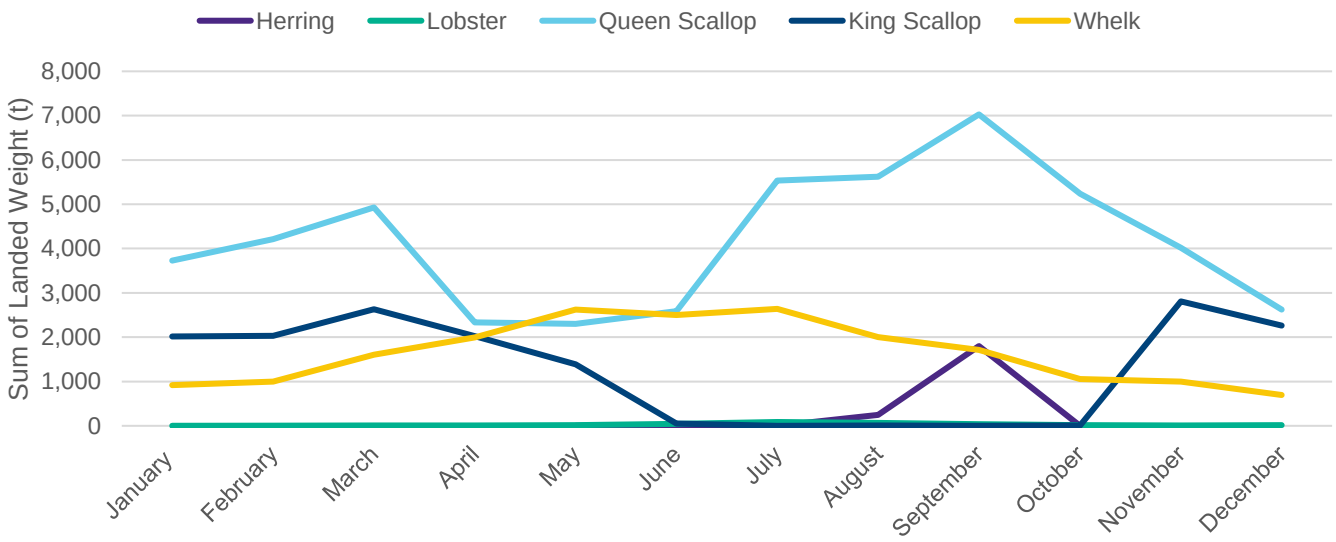

Figure 6.5: Seasonal trends in top five species by total landed weight (tonnes) from UK vessels across the commercial fisheries study area (2012 to 2022)[5].

Annual temporal change

6.4.4.9 In terms of annual variation for UK vessels between 2012 to 2022, landings varied for all species/vessels over the period, with a considerably lower weight/value of queen scallop landings during 2017 to 2022 than between 2012 to 2017 (Figure 6.6). Landings of whelk generally increased between 2014 to 2020. Landings of king scallop, herring and lobster scallop fluctuated yearly.

[5] MMO, 2023a

6.4.4.10 For the non-UK fleet, the EU STECF data showed that between 2006 to 2016, the year 2006 appeared to be the most important in terms of landings across the commercial fisheries study area. Landings of king scallop were significantly higher between 2010 to 2016 than the previous years, which aligns with feedback from project-specific consultation regarding the cyclical nature of the fishery.

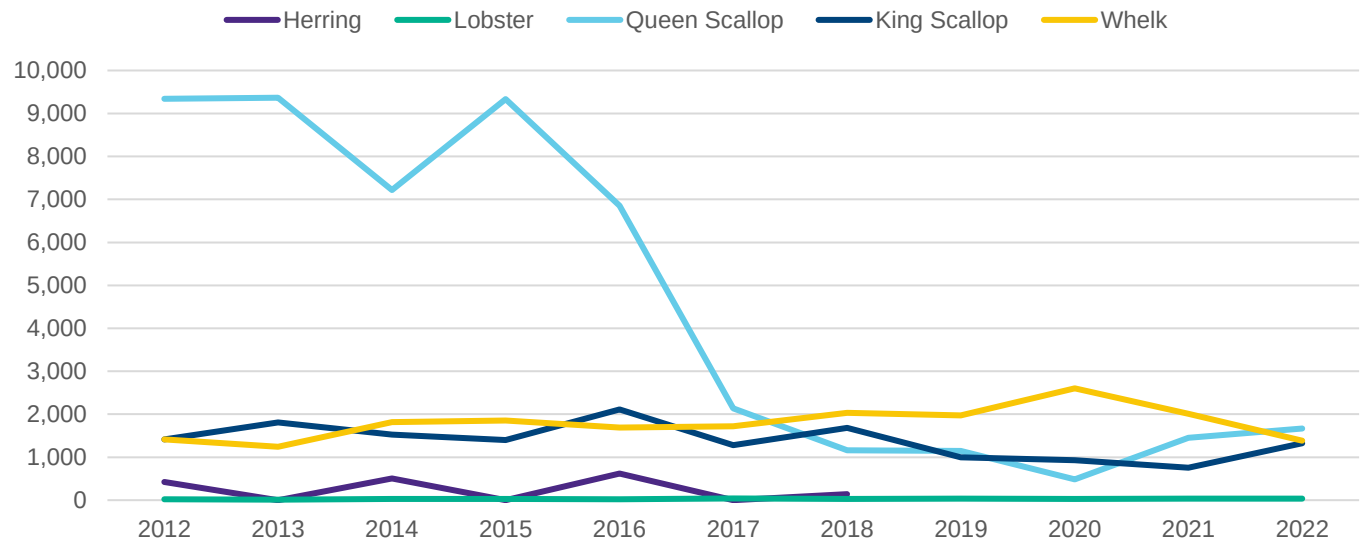

Figure 6.6: Annual trends in top five species by total landed weight (tonnes) from UK vessels across the commercial fisheries study area (2012 to 2022)[6].

Spatial distribution of fishing activity/effort

6.4.4.11 The spatial distribution of fishing activity/value in the commercial fisheries study area has been described within Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, based on review and analysis of multiple datasets as well as direct consultation with individual skippers and fisheries organisations; relevant datasets are listed in Table 6.6. The datasets show that fishing occurs within parts of the Mona Offshore Cable Corridor and Mona Array Area to varying degrees. A summary of the key regional fisheries is provided below.

Static gear

6.4.4.12 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 commercial fisheries study area.

6.4.4.13 Within the commercial fisheries study area during 2016 to 2020, UK static gear ≥15 m vessels generally showed low to moderate levels of effort within the east of the Mona Array Area and none to low levels of effort within the remainder of the Mona Array Area (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, Figure 1.52). Feedback from project-specific consultation with fisheries stakeholders has suggested that this activity is mostly from whelk vessels (13-17 m in length) which are largely operating out of Fleetwood and Whitehaven.

[6] MMO, 2023a

6.4.4.14 Inside the 12 nm limit, there were low levels of effort overlapping with the Mona Offshore Cable Corridor (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, Figure 1.52). 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 WMNP shows that the relative fishing intensity along the majority of the Mona Offshore Cable Corridor was relatively low, with slightly higher intensities observed within the nearshore area between Llandudno and Rhyl. The Sea Fishing Atlas of Wales data (NRW, 2010) indicated that the inshore whelk fishery was active between approximately 6-12 nm, and overlapped with the Mona Offshore Cable Corridor, which aligns with the MMO landings data. Vessels using lobster pots, crab pots and set nets were mainly active in the nearshore regions in the commercial fisheries study area (approximately 0-6 nm); these fishing vessels were operating out of local Welsh fishing ports.

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

6.4.4.16 IoM 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 IoM, within the Manx 6 nm limit. Lower levels of activity can generally be observed to the west of the IoM and beyond the Manx 6 nm limit. No overlap of crab and lobster pot haul effort can be observed with the Mona Array Area (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, Figure 1.63).

6.4.4.17 IoM registered static gear vessels, targeting whelk, were active across ICES Rectangle 37E5 at varying degrees. Higher intensities of whelk pot haul effort were observed within the Manx 6 nm limit particularly in areas to the south east of the IoM. Lower levels of activity can generally be observed in all areas of ICES Rectangle 37E5 beyond the Manx 6 nm limit. No overlap of whelk pot haul effort can be observed with the Mona Array Area (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, Figure 1.64).

Dredge gear

6.4.4.18 Within the commercial fisheries study area, landings using mechanical dredge accounted for approximately 75% of total landings by UK vessels, indicating the relative importance of the scallop dredge fishery in the region. Of these UK vessels, the MMO landings data indicated notable importance of the dredge fishery to the Scottish, IoM and Northern Irish fisheries, as their vessels deploying dredges accounted for the majority of their total landed weight. In terms of non-UK vessels, the Irish fleet accounted for the largest proportion of dredge vessels.

6.4.4.19 The dredge fishery targets scallops, with minimal landings of other commercial species. Landings by IoM dredge vessels are highest from 36E5 landings by Scottish dredge vessels are highest from 36E5, with notable landings from 36E6; landings by Northern Irish dredge vessels were highest from 36E5 and notable from 36E6; landings by Irish dredge vessels were highest from 36E5. VMS data indicated that highest intensities of the dredge fishery were within the IoM 12 nm limit, and within the central and west parts of the Mona Array Area. This is supported by feedback from project-specific consultation which highlighted that the central and west part of the Mona Array Area is an important queen and king scallop fishing ground.

6.4.4.20 Annual landed weight by the dredge fishery was highly variable, with considerably lower catches within the commercial fisheries study area between 2016 to 2020, compared with 2010 to 2015 (Figure 6.6). 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.

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

6.4.4.22 Dredge vessels targeting king scallop were active across the Manx Territorial Sea, at varying intensities. Highest intensities can generally be observed within the IoM 12 nm limit and to the north west of the Mona Array Area; moderate levels of activity overlapped with a small part of the northwestern section of the Mona Array Area. Lowest levels of activity can be observed beyond the IoM 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 seven to eight year periods (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, Figure 1.61).

6.4.4.23 Activity by dredge and otter trawl vessels targeting queen scallop was generally highest in the south eastern section of ICES Rectangle 37E5, which does not overlap with the Mona Array Area. Other areas of relatively high activity can be observed within the IoM Territorial Sea, particularly in areas to the north and south of the IoM. Lowest levels of activity can be observed beyond the IoM 12 nm limit, overlapping with the northern most parts of the Mona Array Area. Activity fluctuated across the time period studied (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, Figure 1.62).

Demersal fishery – beam trawl

6.4.4.24 VMS data illustrating beam trawl (vessels >12 m) activity over the period 2009 to 2020, showed sporadic overlap with small parts of the Mona Array Area, at a relatively low intensity (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, Figure 1.53). There were two areas of higher intensity beam trawling activity within the commercial fisheries study area which did not overlap with the Mona Array Area; these areas were observed to the northeast and the west of the Mona Array Area.

6.4.4.25 Within the commercial fisheries study area, the landings data indicates that landings by vessels using beam trawl were predominantly undertaken by Belgian and south 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 within consultation workshops, which has indicated that beam trawl vessels from the southwest of the UK are active in the Mona Array Area during the Spring, with these vessels predominantly targeting sole. Belgian beam trawl vessels are active within the commercial fisheries study area, but do not fish where the Mona Array Area is located. Beam trawl activity fluctuated across the time period studied.

Demersal fishery – otter trawl

6.4.4.26 VMS data illustrating activity by otter trawl vessels (>12 m) from England, IoM and Northern Ireland was limited within the commercial fisheries study area, with the

highest levels observed in the northwest part of ICES Rectangle 36E5 and predominantly close to the IoM. Otter trawl activity was observed at relatively low levels within the Mona Array Area and the section of the Mona Offshore Cable Corridor beyond 12 nm (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement). However, otter trawl activity fluctuated across the time period studied. Otter trawl vessels from the IoM target queen scallop, generally between July to October.

6.4.4.27 As discussed above in paragraph 6.4.4.23, queen scallop (otter trawl/dredge) swept area (km^2) data between 2017 to 2023 indicate that lowest levels of activity can be observed beyond the IoM 12 nm limit, overlapping with the northern most parts of the Mona Array Area (Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement, Figure 1.62).

6.4.5 Receptor groups

6.4.5.1 From the overview of the commercial fisheries baseline environment presented in the previous sections, it is clear to note that there is a range of UK and non-UK fleets targeting a number of different fisheries in the commercial fisheries study area. The diverse nature of these fleets and fisheries means that potential impacts on the Mona Offshore Wind Project will vary depending on the fleet concerned.

6.4.5.2 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 six main receptor groups have been defined. These have been categorised based on gear type, nature of fishing activity and nationality and are summarised in Table 6.8.

Table 6.8: Key commercial fisheries receptor groups used in this assessment.

Receptor Group	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 Welsh vessels that mostly target whelk, lobster and crab, as established by project specific consultation.
Offshore static gear vessels	Larger (>12 m) static gear vessels that are active offshore (beyond 12 nm) and within the Mona Array Area. These are predominantly English vessels that mostly target whelk, as established by project specific consultation.
Beam trawl vessels	Beam trawl vessels that are active across the commercial fisheries study area. Vessels are predominantly from Belgium and the south west coast of England that mostly target sole and plaice, as established by project specific consultation, but may include vessels from other UK jurisdictions and Ireland. Vessels from the south west coast of England are active within the Mona Array Area, whereas Belgium beam trawl vessels are not.
Scallop vessels – Scottish west coast	West coast based Scottish vessels deploying dredges that are active across the commercial fisheries 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 commercial fisheries study area and rely heavily upon the Mona Array Area for the dredging of queen scallop.
Scallop vessels – IoM	Vessels from the IoM deploying dredges and otter trawls that are active across the commercial fisheries study area targeting king and queen scallop. Fishing techniques in the IoM differ to the rest of the UK fleet due to the fisheries regulations set out by the IoM Government and the main target species.
Other Scallop vessels	Vessels deploying dredges that are active across the commercial fisheries study area, targeting king and queen scallop. Vessels are predominantly from Northern Ireland and

Receptor Group	Description
	Ireland, as established by project specific consultation, but may also include more nomadic vessels from other UK jurisdictions.

6.4.6 Future baseline scenario

6.4.6.1 The Infrastructure Planning (EIA) Regulations 2017[7] requires that the future baseline scenario is presented within the Environmental Statement. The Infrastructure Planning (EIA) Regulations 2017 state that the Environmental Statement must include: "*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*". In the event that the Mona Offshore Wind Project is not developed further in the future, an assessment of potential future baseline conditions has been carried out and is described within this section.

6.4.6.2 The baseline environment for commercial fisheries is constantly evolving. The fishing industry is dynamic, with frequent and sometimes unpredictable changes which affect activity, for example, 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 issues for the fishing industry (Salthouse, 2021). More recently, increased fuel prices and the Covid-19 pandemic 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.

6.4.6.3 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 commercial fisheries study area is cyclical over seven to eight year periods.

6.4.6.4 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 commercial fisheries 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 6.7 for species within the Irish Sea. However, a large proportion of landings within the commercial fisheries study area are from non-quota shellfish species, however, and will not be affected by the quota changes.

Table 6.9: Quota share changes by 2026 for the UK, for species within the Irish Sea[8].

Stock	2020 UK share of EU quota	2026 UK share of EU/UK quota or TAC	UK quota absolute increase
Herring	73.97%	99.01%	25%
Plaice	41.15%	51.11%	10%

[7] https://www.legislation.gov.uk/uksi/2017/572/introduction/made

[8] ABPmer, 2021

Stock	2020 UK share of EU quota	2026 UK share of EU/UK quota or TAC	UK quota absolute increase
Haddock	47.91%	56.02%	8%
Whiting	38.70%	61.00%	22%
Cod	28.79%	44.80%	16%
Sole	21.01%	23.30%	2%

6.4.6.5 Prior to the new trade agreement, a large percentage of fish caught in the region was sold to EU markets, so introduction of the Catch Certificate and other supporting documents, as well as changes to tariffs, could act as a considerable barrier to particular markets. Landings of species, such as whelk, which are exported to non-UK countries may increase as a result.

6.4.7 Data limitations

6.4.7.1 Limitations with data sources used have been discussed fully in Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement. The use of various datasets, combined with feedback from stakeholder consultation, has managed the limitations of the data; therefore, the limitations identified are not considered to affect the certainty/predictability of the impact assessment in section 6.8.

6.4.7.2 It should be noted that although smaller vessels are not captured within the MMO (<15 m vessels) and ICES (<12 m vessels) VMS data, information on their activity has been reviewed through feedback from stakeholder consultation and other supplementary data sources, such as from the WNMP, Sea Fishing Atlas of Wales and information gathered via site specific surveys undertaken in 2021 and 2022.

6.4.7.3 The landings statistics datasets are only available by the ICES rectangle, so these only give an indication of commercial fisheries activity for a general area. Vessels ≤10 m are not required to complete logbooks, so may be under-represented within the landings statistics.

6.4.7.4 Data from the WNMP and the Sea Fishing Atlas of Wales 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.

6.4.7.5 Data collected via site specific surveys, only capture fishing activity during a short time period and have, therefore, only been used to supplement the official datasets and corroborate feedback from consultation with fisheries stakeholders. However, the site-specific surveys are useful to provide context on fishing activity over the last few years, which the official datasets do not currently cover.

6.5 Impact assessment methodology

6.5.1 Overview

6.5.1.1 The commercial fisheries impact assessment has followed the methodology set out in Volume 1, Chapter 5: EIA methodology of the Environmental Statement. 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.

6.5.2 Impact assessment criteria

6.5.2.1 The process for 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 potential impacts and the receptor sensitivity. The terms used to define magnitude and sensitivity are based on those which are described in further detail in Volume 1, Chapter 5: EIA methodology of the Environmental Statement.

6.5.2.2 The criteria for defining magnitude of impact in this chapter are outlined in Table 6.10 below. It should be noted that beneficial impacts as a result of the Mona Offshore Wind Project are also possible. In such a case, the same definitions would apply as in Table 6.10, 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 6.10: Definition of terms relating to magnitude of impact.

Magnitude of impact	Definition
High	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.
Medium	The effect would be long-term (e.g. less than 35 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.
Low	The effect would be short to medium term (e.g. less than 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.

Magnitude of impact	Definition
Negligible	The effect would be short-term (e.g. less than two years), 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.
No change	No loss or alteration of characteristics, features or elements; no observable impact either adverse or beneficial.

6.5.2.3 The criteria for defining sensitivity in this chapter are outlined in Table 6.11 below.

Table 6.11: Definition of terms relating to sensitivity of the receptor.

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.

6.5.2.4 The significance of the effect upon commercial fisheries is determined by correlating the magnitude of impact with the sensitivity of the receptor. The particular method employed for this assessment is presented in Table 6.12. Where a range of significance of effect is presented, the final assessment for each effect is based upon expert judgement.

6.5.2.5 For the purposes of this assessment, any impacts with a significance level of minor or less are not significant in terms of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. As discussed, such impacts can be either adverse or beneficial.

6.5.2.6 Where impacts fall within a range of 'minor or moderate' within Table 6.12, the final assessment of significance in EIA terms has been made based on the understanding of the receptor.

Table 6.12: Matrix used for the assessment of the significance of effect.

Sensitivity of Receptor	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
Negligible	No change	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	No change	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	No change	Negligible or Minor	Minor	Moderate	Moderate or Major
High	No change	Minor	Minor or Moderate	Moderate or Major	Major

6.6 Key parameters for assessment

6.6.1 Maximum design scenario

6.6.1.1 The Maximum Design Scenarios (MDSs) identified in Table 6.13 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group as provided in Volume 1, Chapter 3: Project description of the Environmental Statement. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the MDS (e.g. different infrastructure layout), to that assessed here, be taken forward in the final design scheme.

Table 6.13: MDS considered for the assessment of potential impacts on commercial fisheries.

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

Potential impact	Phase[a] C	O	D	Maximum Design Scenario	Justification
Loss or restricted access to fishing grounds	✓	✓	✓	Construction phase Loss or restricted access to fishing grounds due to: • Duration: up to four years, however, during this period, fishing activity will only be excluded from discrete spatial areas (i.e. only parts of the Mona Array Area and Mona Offshore Cable Corridor will be subject to temporary restrictions where construction is taking place) • 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 operations and maintenance phase. The MDS in terms of the presence of infrastructure would be on the completion of construction, during the operations and maintenance phase • Construction safety zones: 500 m safety zones around vessels installing wind turbines and Offshore Substation Platforms (OSPs) during their construction. 50 m safety zone around each item of infrastructure during the construction phase, where no construction works are taking place on that infrastructure (for example, where a wind turbine generator is incomplete or is in the process of being tested before commissioning). It is proposed that rolling advisory exclusion zones of 500 m will also be present around vessels installing inter-array cables, interconnector cables and subtidal export cables. The loss or restricted access to fishing grounds created by such 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.	Maximum duration and extent of fishing exclusion, and therefore the greatest potential to restrict access to fishing grounds.

Potential impact	Phase[a] C	O	D	Maximum Design Scenario	Justification
				Seabed preparation: • Sandwave and boulder clearance for wind turbines, OSPs, inter-array cables, interconnector cables and the subtidal export cables throughout the Mona Array Area and Offshore Cable Corridor over a duration of approximately 12 months within the wider offshore construction programme • Existing cable removal: up to 46 km. Reduction of access around infrastructure during construction: • Wind turbine generators: o up to 96 wind turbine generators o minimum spacing 1,400 m between rows of wind turbines and 1,400 m between wind turbines in a row o maximum seabed footprint of up to 735,488 m^2 (inclusive of scour protection) • OSPs: up to four OSPs with a seabed footprint of up to 24,964 m^2 (inclusive of scour protection) • Inter-array cables: up to 325 km of inter-array cables, buried (where possible) to a minimum depth of 0.5 m • Inter-array cable protection: up to 32.5 km (10% of total length) of inter-array cables may require cable protection (steel armour wire, rock dump or mattressing), up to a height of 3 m and a width of 10 m • Inter-array crossings: up to 67 crossings with concrete mattresses and rock berm, maximum dimensions – 4 m height x 80 m length x 36 m width • Interconnector cables: up to 50 km of interconnector cables, buried (where possible) to a minimum depth of 0.5 m • Interconnector cable protection: up to 10 km (20% of total length) of interconnector cables may require cable protection (steel armour wire, rock dump or mattressing) up to a height of 3 m and a width of 10 m	

Potential impact	Phase[a] C	O	D	Maximum Design Scenario	Justification
				• Interconnector crossings: up to 10 crossings with concrete mattresses and rock berm, maximum dimensions – 3 m height x 50 m length x 20 m width • Export cable: up to 360 km of export cables within the Mona Offshore Cable Corridor, buried (where possible) to a minimum depth of 0.5 m • Export cable protection: up to 72 km (20% of total length) of export cables may require cable protection (steel armour wire, rock dump or mattressing) up to a height of 3 m and a width of 10 m • Export cable crossings: 24 crossings with concrete mattresses/frond mattress/rock berm, maximum dimensions – 3 m height x 50 m length x 30 m width • Up to a total of 86 construction vessels on site at any one time • Up to 2,055 installation vessel movements (return trips) during construction.	
				Operations and maintenance phase • Operation duration: 35 years • Operational safety zones: 500 m around any vessel involved in major maintenance works • Cable repair/reburial activities: • Inter-array cables: – repair of up 10 km of cable in one event every three years – reburial of up to 20 km of cable in one event every five years • Interconnector cables: – repair of up to 16 km of cable in each of three events every 10 years – reburial of up to 2 km of cable in one event every five years • Subtidal export cables:	The Mona Offshore Wind Project fisheries mitigation and management measures and how they may facilitate co-existence and co-location during the operations and maintenance phase are outlined within Table 6.15 and are committed to within the outline Fisheries Liaison and Co-existence Plan (Document Reference: J10). Fishing is assumed to continue within the Mona Array Area and Offshore Cable Corridor, where possible. The only exception will be any temporary (advisory) 500 m safety zones, that will be implemented around any large vessels undertaking cable repair/remediation events.

Potential impact	Phase[a] C	O	D	Maximum Design Scenario	Justification
				– repair of up to 32 km of cable in eight events every five years – reburial of up to 15 km of cable in one event every five years • Up to a total of 21 operations and maintenance vessels on site at any one time • Up to 849 operations and maintenance vessel movements (return trips) each year. Decommissioning phase • The duration of the decommissioning programme is anticipated to be no longer than as for construction, and thus, up to four years • During the decommissioning phase the loss or restricted access to fishing grounds would gradually decrease from the operations and maintenance MDS as structures above the seabed are removed and cut below the seabed.	
Displacement of fishing activity into other areas	✓	✓	✓	Construction phase Refer to 'Loss or restricted access to fishing grounds' section of this table. Operations 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.
Interference with fishing activity	✓	✓	✓	Construction phase • Duration: up to four years, however, during this period, fishing activity will only be excluded from discrete spatial areas (i.e. only parts of the Mona Array Area and Offshore Cable Corridor will be subject to temporary restrictions where construction is taking place). • Up to a total of 86 construction vessels on site at any one time	Maximum amount of infrastructure and number of vessel transits.

Potential impact	Phase[a] C	O	D	Maximum Design Scenario	Justification
				• Up to 2,055 installation vessel movements (return trips) during construction. Operations and maintenance phase • Operation duration: 35 years • Up to a total of 21 operations and maintenance vessels on site at any one time • Up to 849 operations and maintenance vessel movements (return trips) each year. Decommissioning phase • The duration of the decommissioning programme is anticipated to be the same as for construction, and thus, up to four years • During the decommissioning phase the changes would gradually decrease from the operations and maintenance MDS as the need for project-related vessels is reduced.	
Temporary increase in steaming distances (Mona Array Area – construction and decommissioning phases)	✓	×	✓	As for 'Loss or restricted access to fishing grounds' – see above.	Maximum potential disruption to established steaming routes.
Loss or damage to fishing gear due to snagging	✓	✓	✓	As for 'Loss or restricted access to fishing grounds' and 'interference with fishing activity' – see above.	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	✓	✓	✓	As described in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.	Greatest disturbance to fish and shellfish species, and therefore the resulting effect to commercial fisheries.
Supply chain opportunities for local fishing vessels	✓	✓	✓	Construction phase • Duration: up to four years, however, during this period, fishing activity will only be excluded from discrete spatial areas (i.e. only parts of the Mona Array Area and Mona Offshore Cable Corridor will be subject to temporary restrictions) • Likely number of guard vessels onsite at one time (array): one	Potential opportunities for local fishing vessels (potential beneficial impact for commercial fishing vessels).

Potential impact	Phase[a] C	O	D	Maximum Design Scenario	Justification
				• Likely number of guard vessels onsite at one time (export cable): one • Potential provision of fishing vessel for visual checks of project infrastructure • Potential provision of fishing vessel for scouting surveys • Potential for OFLO duties. Operations and maintenance phase • There may be opportunities for commercial fishing vessels to provide marine operation support during the operations and maintenance phase (35 years) of the Mona Offshore Wind Project, such as OFLO duties during period of major maintenance and guard vessel requirements. Decommissioning phase • The duration of the decommissioning programme is anticipated to be no longer than as for construction, and thus, up to four years • In the absence of detailed methodologies, the supply chain opportunities for local fishing vessels are considered the same as for the construction phase.	
Increased risk of introduction and spread of invasive non-native species (INNS)	✓	✓	✓	This impact has been considered in Volume 2, Chapter 2: Benthic subtidal and intertidal ecology of the Environmental Statement.	Maximum surface area created by offshore infrastructure and maximum number of vessel movements during construction, operations and maintenance and decommissioning phases.
Increased collision and allision risk to commercial fishing vessels	✓	✓	✓	This impact has been considered in Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement.	Greatest extent of the Mona Offshore Wind Project over the longest duration, with the maximum number of project vessel movements, therefore the highest potential for increases in the risk of collision and allision.

6.6.2 Impacts scoped out of the assessment

6.6.2.1 On the basis of the baseline environment and the description of development outlined in Volume 1, Chapter 3: Project description of the Environmental Statement, a number of impacts are proposed to be scoped out of the assessment for commercial fisheries. These impacts are outlined, together with a justification for scoping them out, in Table 6.14.

Table 6.14: Impacts scoped out of the assessment for commercial fisheries.

Potential impact	Justification
Increased steaming distances during the operations and maintenance phase – Mona Array Area.	Once the Mona Offshore Wind Project has been constructed fishing vessels will be able to transit through the Mona Array Area to/from adjacent fishing grounds, the presence of wind farm infrastructure during the operations and maintenance phase would not affect steaming distances. The Planning Inspectorate agreed in the Scoping Opinion that this matter can be scoped out on the basis that once operational, fishing vessels will be able to transit through the Mona Array Area.
Increased steaming distances during the construction, operations and maintenance phase, and decommissioning phases – Mona Offshore Cable Corridor.	Offshore export cable installation and maintenance, and any decommissioning activities, will be temporary and only occur within a very localised area. The Planning Inspectorate agreed in the Scoping Opinion that significant increases in steaming distances from the installation, maintenance, and decommissioning of the Mona transmission assets are unlikely and can therefore be scoped out from the assessment.
Interference with fishing activity during the operations and maintenance phase – Mona Offshore Cable Corridor.	Increased vessel traffic within fishing grounds as a result of changes to shipping routes and project vessel traffic within the Mona Offshore Cable Corridor may result in increased interaction with fishing vessels. Operations and maintenance activities will be temporary, and the number of vessels required during maintenance is unlikely to add considerably to the marine traffic already present within the Mona Offshore Cable Corridor. Operations and maintenance activities associated with the OSPs will be limited in spatial extent and temporary. The Planning Inspectorate agreed in the Scoping Opinion that this matter can be scoped out of the assessment on the basis that, during the operations and maintenance phase, the number of vessels required for such activities would be unlikely to result in significant effects.

6.7 Measures adopted as part of the Mona Offshore Wind Project

6.7.1.1 For the purposes of the EIA process, the term ‘measures adopted as part of the project’ is used to include the following measures (adapted from IEMA, 2016):

- Measures included as part of the project design. These include modifications to location or design, integrated into the application for consent. These measures are implemented through the consent itself; through the requirements of the DCO or the conditions within the deemed marine licences/marine licence (referred to as primary mitigation in IEMA, 2016)

- Measures required to meet legislative requirements, or actions that are considered to be standard practice used to manage commonly occurring environmental effects (referred to as tertiary mitigation in IEMA, 2016).

6.7.1.2 A number of measures (primary and tertiary) have been adopted as part of the Mona Offshore Wind Project to reduce the potential for impacts on commercial fisheries (see Table 6.15).

6.7.1.3 As there is a commitment to implementing these measures, they are considered inherently part of the design of the Mona Offshore Wind Project and have, therefore, been considered in the assessment presented in section 6.8 below (i.e. the determination of magnitude and, therefore, significance, assumes implementation of these measures).

Table 6.15: Measures adopted as part of the Mona Offshore Wind Project.

Measures	Justification	How the measure will be secured
Primary measures: Measures included as part of the project design		
Development and adherence to an offshore Construction Method Statement (CMS) which includes a cable specification and installation plan (CSIP) where 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).	To ensure safety of fishing activity and to minimise the amount of fishing grounds lost, cable protection shall be designed to minimise snagging hazards as far as possible. The use of cable protection will be minimised as far as practicable and only used where required. Cable protection will only be used where the minimum target burial depth (0.5 m) cannot be achieved, for example in areas of hard ground. This will be informed by outputs from the Cable Burial Risk Assessment completed as part of the CSIP.	The CMS is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Development and adherence to an offshore CMS which includes a CSIP where the time delay between sequential cable installation operations (e.g. cable-lay and post-lay burial), shall be minimised to as short as reasonably practicable.	Time delay between sequential cable installation operations (e.g. cable-lay and post-lay burial), shall be minimised to as short as reasonably practicable, to minimise duration of disruption to commercial fishing activity in the area of the export cable(s).	The CMS is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Infrastructure spacing at a minimum of 1,400 m apart.	The Applicant has increased the minimum spacing between infrastructure within the array area, increasing the spacing from 1,000 m between rows of wind turbines and 875 m between each wind turbine in a row to proposed minimum spaces of 1,400 m both within and between rows, in order to provide additional space for continued fishing and transit by commercial fishing vessels between and around the Mona Array Area.	Secured as an offshore parameter in requirement 2 of Schedule 2 of the draft DCO and within the deemed marine licence in Schedule 14 of the draft DCO and insofar as OSPs, expected to be secured within the standalone NRW marine licence.

Measures	Justification	How the measure will be secured
Development and adherence to a design plan (DP) with roughly north to south alignment of wind turbine rows.	The Applicant has committed to positioning wind turbine rows in a roughly north to south alignment, to allow for continued fishing within the Mona Array Area. Project-specific consultation has established that scallop and static gear vessels tow and deploy their gear in a north to south alignment within the Mona Array Area, which is the only orientation possible due to tides in the region.	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10). The DP is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Development and adherence to a DP which includes implementation of a SMZ over an area of core scallop grounds within the Mona Array Area.	To seek to design the array layout to increase potential for co-existence and co-location, the Applicant has made a commitment to maintaining an area free of wind turbines and OSPs over an area of core scallop grounds within the Mona Array Area, termed the Scallop Mitigation Zone. More information is provided in the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10). The DP is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Tertiary measures: Measures required to meet legislative requirements or actions that are considered to be standard practice		
Development and adherence to an Offshore Environmental Management Plan (OEMP) which includes details of the appointment and responsibilities of a fisheries liaison officer.	To maintain effective communications between the Mona Offshore Wind Project and the commercial fishing industry. More information is provided in the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).	The OEMP is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Ongoing liaison with the fishing industry through the CFLO and FIR, and adhere to good practice guidance with regards to fisheries liaison.	To maintain effective communications between the Mona Offshore Wind Project and the commercial fishing industry. More information is provided in the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).
To investigate establishing a commercial fisheries working group.	A commercial fisheries working group can provide a forum for information sharing and discussion of key issues with commercial fisheries stakeholders and other developers in the region.	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).
Development of a Fisheries Liaison and Co-existence Plan.	To communicate the commitments by the Mona Offshore Wind Project to coexist with the fishing industry.	Secured through a condition in the marine licence.
Notification to fishing fleets of construction, maintenance and decommissioning activities.	To ensure that the commercial fishing industry is fully informed in advance of any offshore activities, information is to be circulated via Notices to Mariners (NtM) and Kingfisher Information Service of Seafish within time frames set out under 'Notifications' within the deemed marine license and expected to be included in the standalone NRW	Notifications are secured as a condition in the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.

Measures	Justification	How the measure will be secured
	marine licence. More information is provided in the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).	
Use of OFLOs where required and appropriate.	OFLOs facilitate engagement with commercial fisheries stakeholders during specific Mona Offshore Wind Project works and promote co-existence during the construction phase.	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).
Timely and efficient distribution of Notices to Mariners (NtMs).	To ensure that stakeholders are fully informed in advance of any offshore activities, at regular intervals. More information on timescales for information distribution are outlined in the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).
Use of advisory clearance distances and safety zones during construction and periods of major maintenance.	To ensure navigational safety and minimise risk of gear snagging, 500 m safety zones will be implemented around wind turbines and OSPs during their construction. 50 m safety zones will also be implemented around each item of infrastructure during the construction phase, where no construction works are taking place on that infrastructure (for example, where a wind turbine generator is incomplete or is in the process of being tested before commissioning). During the operational and maintenance phase, 500 m safety zones will also be implemented around any vessel involved in major maintenance works.	The commitment to the use of advisory clearance distances and safety zones as set out in the Safety Zone Statement (Document Reference: J4) is secured through this Outline FLCP. An application for safety zones will be made under the Energy Act 2004.
Use of rolling advisory exclusion zones.	Rolling advisory exclusion zones of 500 m will be present around vessels installing inter-array cables, interconnector cables and export cables, in order to avoid the entire offshore Mona Array Area and Export Cable Corridor being closed to fishing vessels during the construction phase.	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).
Development and adherence to an Aids to Navigation Management Plan to ensure adequate navigational markers (including lighting), in accordance with the most recent relevant industry guidance.	To ensure navigational safety and minimise risk of gear snagging, adequate navigational markers (including lighting), in accordance with the most recent relevant industry guidance will be ensured through preparation of an Aids to Navigation Management Plan.	Aids to Navigation Management Plan is secured in the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Development and adherence to a CMS including CSIP and details of scour protection management and cable	To ensure navigational safety and minimise risk of gear snagging, a CSIP will be prepared (in line with consent conditions) prior to installation of the Mona Offshore Wind Project. This will	CMS, CSIP and details of scour protection and cable protection management is secured within the deemed marine licence in Schedule 14 of the draft DCO and

Measures	Justification	How the measure will be secured
protection management , to outline cable burial depth, cable protection and monitoring of cables.	include a detailed cable laying plan, including geotechnical data, cable laying techniques, cable protection, monitoring of cables. This will be informed by a Cable Burial Risk Assessment, which will include details on minimum target burial depths.	expected to be secured within the standalone NRW marine licence.
Annual reviews for the first five years of the operations and maintenance phase, to review VMS data and landings data to identify whether there are any changes to fishing activity within the Mona Array Area.	Gathering data on fishing activity within the Mona Array Area during the operations and maintenance phase of the Mona Offshore Wind Project in order to contribute to a knowledge gap that currently exists among offshore wind farm developments.	The data gathering is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).
'As-laid' co-ordinates of the cable route shall be recorded and submitted to the United Kingdom Hydrographic Office (UKHO) and KIS-ORCA Service. 'As-laid' cables shall be marked on Admiralty Charts and fisherman's awareness charts (paper and electronic format).	To ensure navigational safety and minimise risk of gear snagging, 'as-laid' co-ordinates of the cable route shall be recorded and submitted to the UKHO and KIS-ORCA Service. 'As-laid' cables shall be marked on Admiralty Charts and fisherman's awareness charts (paper, electronic and plotter format).	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10) and a condition within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Development and adherence to a dropped objects plan.	To ensure navigational safety and minimise risk of gear snagging.	Secured through a condition in the marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Development and adherence to a decommissioning programme.	To ensure navigational safety and minimise risk of gear snagging and to satisfy the requirements of the Energy Act (2004).	Secured as a requirement in schedule 2 of the draft DCO.
Development and adherence to an OEMP.	Development of an OEMP that details minimum environmental management requirements expected of the Applicant and all contractors and subcontractors with regards to marine pollution contingency, waste management and disposal, chemical risk assessment and relevant fisheries liaison matters.	OEMP is secured within the deemed marine licence in Schedule 14 of the draft DCO and expected to be secured within the standalone NRW marine licence.
Use of guard vessels where required.	Where cable exposures exist during the operational and maintenance phase, which would result in significant risk, guard vessels will be used where appropriate until the risk has been mitigated by burial and/or other protection methods, ensuring navigational safety and minimising the potential risk of gear snagging. Guard vessels facilitate engagement with commercial fisheries stakeholders during specific project works, maximising awareness of temporary	The commitment is secured through the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).

Measures	Justification	How the measure will be secured
	hazards and reducing potential for interactions between the commercial fishing activity and the Mona Offshore Wind Project. All efforts will be made to ensure that consideration is given to the use of regional fishing industry vessels for any guard duties.	

6.8 Assessment of significant effects

6.8.1 Overview

6.8.1.1 The potential impacts on commercial fisheries of the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Project have been assessed. The potential impacts arising from these different phases of the Mona Offshore Wind Project are listed in Table 6.13, along with the MDS against which each potential impact has been assessed.

6.8.1.2 A description of the potential significance of effect on commercial fisheries 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.

6.8.2 Loss or restricted access to fishing grounds

6.8.2.1 The construction, operations and maintenance, and decommissioning phases of the Mona Array Area and Mona Offshore Cable Corridor may lead to loss or restricted access to fishing grounds.

6.8.2.2 The MDS is represented by the maximum number of advisory safety zones around infrastructure and installation vessels during construction and decommissioning, and by the maximum amount of infrastructure during the operations and maintenance phase plus any additional, temporary safety zones around vessels undertaking major maintenance works.

Construction phase

6.8.2.3 During construction of the Mona Offshore Wind Project, it is proposed that temporary 500 m safety zones will be present around vessels installing wind turbines and OSPs. It is proposed that rolling advisory exclusion zones of 500 m will also be present around vessels installing inter-array cables, interconnector cables and subtidal export cables. The loss or restricted access to fishing grounds created by such 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 (as outlined within Table 6.15 and secured within the outline Fisheries Liaison and Co-existence Plan).

6.8.2.4 Construction of the Mona Offshore Wind Project will also involve seabed preparation activities, comprising of sandwave and boulder clearance for wind turbines, OSP, inter-array cables, interconnector cables and the subtidal export cables throughout the Mona Array Area and Mona Offshore Cable Corridor.

6.8.2.5 A description of the significance of effect upon commercial fisheries receptors as a result of this potential impact is given below.

Magnitude of impact

Inshore static gear vessels

6.8.2.6 Inshore static gear vessels are active within the inshore region of the commercial fisheries study area and the Mona Offshore Cable Corridor, with project-specific feedback establishing that these are predominantly Welsh vessels targeting lobster and crab, operating out of local ports such as Rhyl and Conwy. Limited spatial activity data is available for this receptor group; however, WNMP data indicates relatively low static gear activity across the entire Mona Offshore Cable Corridor and no activity within the Mona Array Area. Construction works at the Mona Array Area will therefore not affect this receptor.

6.8.2.7 The main element of construction activity that will affect this receptor is seabed preparation and installation work within the Mona Offshore Cable Corridor, in particular within the inshore region (0 to 12 nm). The construction phase has an anticipated duration of up to four years, with the seabed preparation works expected to take approximately 12 months within the wider offshore construction programme. However, during this period, fishing activity will only be excluded from discrete spatial areas (i.e. only discrete sections of the Mona Offshore Cable Corridor will be subject to temporary restrictions at any one time).

6.8.2.8 Due to the rolling advisory 500 m safety zones around vessels undertaking installation works within the Mona Offshore Cable Corridor, 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.*, 2018).

6.8.2.9 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.

6.8.2.10 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. less than five years), intermittent, and with high reversibility due 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 commercial annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Offshore static gear vessels

6.8.2.11 Offshore static gear vessels are active across the commercial fisheries study area, including within the Mona Array Area and Mona Offshore Cable Corridor. Project-specific consultation has established that these are predominantly English vessels targeting crab and whelk. VMS data indicate no effort of >15 m vessels in 2016, 2018 and 2020 within the Mona Offshore Cable Corridor (section beyond 12 nm); limited fishing effort was recorded in 2017 and 2019 within the offshore section. In terms of

the Mona Array Area, VMS data indicate that fishing effort by static gear vessels was concentrated within the northeast section; no static gear fishing was recorded in the VMS data during 2018.

6.8.2.12 This receptor group will be affected by construction works at the Mona Array Area and the section of the Mona Offshore Cable Corridor beyond 12 nm. The construction phase has an anticipated duration of up to four years (including seabed preparation); however, during this period, fishing activity will only be excluded from discrete spatial areas (i.e. only discrete sections of the Mona Offshore Cable Corridor will be subject to temporary restrictions at any one time). Based on the relatively low level of offshore static gear fishing in this area, and the fact that any temporary advisory 500 m safety zones around vessels undertaking installation will be applied on a rolling basis, the area of exclusion is assessed as representing between 5-10% of the annual value of landings for vessels in this receptor group.

6.8.2.13 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. less than four years), 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 low 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 **low.**

Beam trawl vessels

6.8.2.14 Project-specific consultation established that approximately one English and approximately six Belgian beam trawl vessels operate within the commercial fisheries study area. However only the English beam trawl vessel operates within the Mona Array Area; while operating within the commercial fisheries study area, the Belgian beam trawl vessels mostly trawl east of the Mona Array Area. All of these vessels fish within the wider Irish Sea and not only within the commercial fisheries study area, highlighting their nomadic nature.

6.8.2.15 The main element of construction activity that will affect this receptor is the installation of the Mona Array Area (duration of up to four years, including seabed preparation). As this receptor group is mostly active outside the Mona Array Area, the construction phase is assessed to have a predicted loss of <5% of this receptor's annual value of landings.

6.8.2.16 In light of the above, the impact is predicted to be of local 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 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, deemed as **negligible**.

Scallop vessels – Scottish west coast

6.8.2.17 Landing statistics indicate that the commercial fisheries study area was particularly important to Scottish west coast scallopers during the period 2012 to 2022, with 11 scallop vessels based in Annan, Ballantrae and Kirkcudbright particularly active. Through close liaison with stakeholders (SFF, SWFPA and WCSP), project-specific consultation has established that Scottish west coast scallop vessels are considerably active and rely heavily upon the Mona Array Area for the dredging of queen scallop; with August to December being particularly important months. These vessels also

target king scallop within the Mona Array Area, with November to May being a key period within the year.

6.8.2.18 The main element of construction activity that will affect this receptor is the installation of the Mona Array Area (duration of up to four years, including seabed preparation). During the construction phase, fishing activity will only be excluded from discrete spatial areas (i.e. only sections of the Mona Array Area will be subject to temporary restrictions via temporary 500 m safety and/or safety zones around major installation vessels). This limited area of exclusion for fishing activity is assessed as only resulting in a loss of between 5-10% of the annual value of landings for vessels in this receptor group.

6.8.2.19 In light of the above, the impact 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 receptor 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 impact for this receptor is therefore deemed as **low.**

Scallop vessels – Isle of Man

6.8.2.20 Feedback from project-specific consultation has established that, at the time of writing, there are 55 vessels licenced to fish for king scallop in IoM waters (29 of which are IoM registered vessels). Of these, 36 can also fish for queen scallops (25 of which are IoM 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, which is approximately 7 km from the Mona Array Area. The majority of these vessels have a licence for both king and queen scallop.

6.8.2.21 Fisheries monitoring has recorded 2 Manx vessels large enough to fish outside of the Manx territorial sea. Landing statistics indicate that IoM scallop vessels almost exclusively operate out of ICES Rectangle 36E5, in which only a relatively small section in the west of the Mona Array Area is positioned.

6.8.2.22 The main element of construction activity that will affect this receptor is the installation of the Mona Array Area (duration of up to four years, including seabed preparation). When considering the above, and the fact that fishing activity for this receptor would only be excluded from discrete spatial areas during the construction phase (i.e. only sections of the Mona Array Area will be subject to temporary 500 m safety zone restrictions around installation vessels), loss or restricted access to fishing grounds is assessed as only representing between 5-10% of the annual value of landings for vessels within this receptor group.

6.8.2.23 In light of the above, the impact 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 receptor 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 impact for this receptor is deemed as **low**.

Other scallop vessels

6.8.2.24 Feedback, via detailed consultation with fisheries stakeholders and analyses of official datasets indicates 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 southwest England. While landing statistics indicate the relative importance of scallop within the commercial fisheries study area, remote

monitoring has established that these vessels are highly nomadic, often pass through the Mona Array Area in transit to fish other areas of the Irish Sea, and target scallop across a relatively wide area offshore.

6.8.2.25 The main element of construction activity that will affect this receptor is the installation of the Mona Array Area (duration of up to four years, including seabed preparation). Fishing activity would only be excluded from discrete spatial areas during the construction phase. 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.

6.8.2.26 In light of the above, the impact 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 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 is, therefore, considered as **negligible**.

Sensitivity of the receptor

Inshore static gear vessels

6.8.2.27 The potential area from which this receptor group will have reduced access is relatively small (i.e. rolling advisory safety/advisory exclusion zones of 500 m around vessels undertaking installation within the inshore section of the Mona Offshore Cable Corridor). 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.

6.8.2.28 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

6.8.2.29 This commercial fisheries receptor comprises larger offshore vessels (>12 m) that deploy static gear within a 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 commercial fisheries study area and are occasionally active at low levels along the Mona Offshore Cable Corridor. This receptor group has the ability to fish a wider area than any areas they may be temporarily excluded from during construction works.

6.8.2.30 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

6.8.2.31 This commercial fisheries receptor group generally constitutes larger beam trawl vessels (>12 m) from Belgium and the south west coast of England that are active within the commercial fisheries study area. Relatively low fishing effort was observed within the Mona Array Area by beam trawl vessels and only by one beam trawl vessel from the south west coast of England. This receptor group has the ability to fish numerous grounds within the wider Irish Sea and beyond.

6.8.2.32 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

6.8.2.33 This commercial fisheries receptor group generally constitutes larger vessels (>12 m) from the Scottish west coast, deploying dredge gear and targeting queen and king scallop. 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. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear.

6.8.2.34 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

6.8.2.35 Within the commercial fisheries study area, according to landing statistics during the study period (2012 to 2022), this receptor group almost exclusively operates out of ICES Rectangle 36E5 and, therefore, exhibits limited spatial adaptability. Project-specific consultation indicates that vessels within this receptor group are dedicated scallop vessels, with limited ability to deploy alternative gear. The IoM 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. At the time of writing, there are 55 vessels licenced to fish for king scallop in IoM waters (29 of which are IoM registered vessels). Of these, 36 can also fish for queen scallops (25 of which are IoM registered vessels).

6.8.2.36 IoM scallop vessels are deemed to be of limited spatial adaptability, high spatial tolerance and moderate recoverability. The sensitivity of the receptor is therefore, considered to be **low**.

Other scallop vessels

6.8.2.37 As discussed, this receptor group comprises nomadic scallop vessels, that are often observed transiting through the Mona Array Area 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.

6.8.2.38 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**.

Significance of the effect

6.8.2.39 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.16.

Table 6.16: Magnitude, sensitivity and impact significance relating to loss or restricted access to fishing grounds during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Medium	Negligible
Offshore static gear vessels	Low	Low	Negligible

Receptor Group	Magnitude	Sensitivity	Effect
Beam trawl vessels	Negligible	Negligible	Negligible
Scottish west coast scallop vessels	Low	Medium	Minor
IoM scallop vessels	Low	Low	Negligible
Other scallop vessels	Negligible	Negligible	Negligible

Operations and maintenance phase

6.8.2.40 During the operations and maintenance phase of the Mona Offshore Wind Project, commercial fishing activity may be affected via long-term loss or restricted access to fishing grounds, and the associated reduction in revenue due to the presence of project infrastructure 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. Loss of fishing grounds/reduced access via repair/remediation events of project infrastructure during operations and maintenance and over the project life-time, are assessed separately in section 6.8.4.

Magnitude of impact

6.8.2.41 Existing UK legislation does not prohibit commercial fishing within operational offshore wind farms and for some sites that have fixed foundation options (e.g. jackets – three legged, jackets – four legged, suction bucket three-legged jacket and suction bucket four-legged jacket and monopiles), commercial fishing has continued during this phase. For example, towed demersal fishing has occurred within the Walney 4 Extension Wind Farm since it has been operational, which could be partly attributed to layout of the wind turbines which facilitates vessels to safely fish within the boundary of the wind farm (Dunkley and Solandt, 2022).

6.8.2.42 A study investigating the impact of the Westernmost Rough Offshore Wind Farm on commercial crustacean stock within its array area found that offshore static gear vessels were able to fish between wind turbines (spacing of 1,100 m) and, therefore, continue their activity within the array during the operations and maintenance phase (Roach and Cohen, 2015). Post construction fish surveys undertaken on Westernmost 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).

6.8.2.43 Post construction fish surveys undertaken on the Barrow Offshore Wind Farm demonstrated that it is feasible to tow beam trawl gear between the wind turbines of the wind farm (Gray et al., 2016). Remote monitoring of fishing activity has confirmed that mobile gear vessels fish within operational wind farms in the Irish Sea. Trial areas for the use of static commercial fishing gear within the Hywind Floating Offshore Wind Farm, based on safety parameters and a minimum distance of 200 m to a turbine and dynamic sections of the export/inter-array cables and 50 m away from all other subsea infrastructure, allowed the safe operation of the static gear and sufficient room to manoeuvre for a 30 m fishing vessel (Wright et al., 2023).

6.8.2.44 The potential maximum number of wind turbines within the Mona Array Area is 96, while the minimum spacing between wind turbines is 1,400 m and the minimum spacing between rows of wind turbines is also 1,400 m. During project-specific

consultation, information was provided by commercial fisheries stakeholders with regard to their preference of minimum spacing between wind turbines that would allow for continued fishing within the Mona Array Area, as summarised within the magnitude section below. Differences in preference of wind turbine spacing by different fisheries operators are in part attributable to different attitudes to risk, as well as different operating requirements associated with gear width when actively fishing.

6.8.2.45 To reduce loss or restricted access to fishing grounds and to promote co-location and co-existence during the operations and maintenance phase, a SMZ is to be implemented over areas of core scallop grounds within the Mona Array Area, while a roughly north – south alignment of wind turbines and array cables, where possible, has also been committed to (as discussed with commercial fisheries stakeholders via project-specific consultation). These commitments and the minimum extent of the SMZ are detailed and committed to within the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10).

6.8.2.46 With respect to the Mona Offshore Cable Corridor, it is assumed that during the operations and maintenance phase, all cables will either be buried, or have external cable protection that will have sloped sides to minimise risk of snagging. Therefore, there will be no material loss of fishing grounds along the entire Mona Offshore Cable Corridor and fishing will be able to continue normally. The only exception with respect to the Mona Offshore Cable Corridor will be any temporary (advisory) 500 m safety zones, that will be implemented around any large vessels undertaking cable repair/remediation events.

6.8.2.47 Measures adopted as part of the Mona Offshore Wind project, as outlined in Table 6.15, will minimise the impact of the loss, or restricted access to, fishing grounds during the operations and maintenance phase. A dedicated FLO will also be appointed to communicate timings and location of any maintenance works with the commercial fishing industry.

6.8.2.48 A number of fleets from the UK and other nationalities operate within the commercial fisheries 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 Mona Offshore Wind Project.

Inshore static gear vessels

6.8.2.49 This receptor group will not be affected by a loss of grounds or restricted access to the Mona Array Area during the operations 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 Mona Offshore Cable Corridor, which will be fully buried or have external cable protection and will, therefore, not prevent this receptor continuing to fish.

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

6.8.2.51 In light of the above, the impact is predicted to be of local spatial extent, long term duration, intermittent, 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 project infrastructure would only affect an area from which a very small proportion (<5%) 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

6.8.2.52 During project-specific consultation, this receptor group confirmed that they would fish within operational arrays, for example they fish within both Walney and Burbo Bank offshore wind farms. However, these static gear vessels lay gear in a north - south alignment within the Mona Array Area, which is the only orientation possible due to tides in the region; if wind turbines were set out in this layout, this receptor group would be able to fish between a minimum spacing of 1,400 m between wind turbines and 1,400 m between wind turbines in a row. A study investigating the impact of the westernmost Rough Offshore Wind Farm on commercial crustacean stock within its array area found that offshore static gear vessels were able to fish between wind turbines (spacing of 1,100 m) and, therefore, continue their activity within the Array Area during the operations and maintenance phase (Roach and Cohen, 2015).

6.8.2.53 This receptor group will lose access to discrete areas as a result of project infrastructure: up to a maximum of 96 wind turbines, a seabed footprint of up to 735,488 m^2 (inclusive of scour protection); up to four OSPs with a seabed footprint of 24,964 m^2 (inclusive of scour protection). Due to the nature of the fishing gear, this receptor group is not expected to be affected by the cable protection and cable crossings.

6.8.2.54 The section of the Mona Offshore Cable Corridor beyond 12 nm will not affect this receptor during the operations and maintenance phase, as the cable will be fully buried or have external cable protection, thus, permitting the deployment of static gear (pots). 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.

6.8.2.55 As highlighted above (paragraph 6.8.2.52), fishing by this receptor group could continue between wind turbines with a minimum spacing of 1,400 m, if such wind turbines were set out in a north - south orientation that is compatible with the alignment of static gear deployment in the region (deployment is limited to such an alignment, due to tides in the region, as established via project-specific consultation). To reduce loss or restricted access to fishing grounds during the operations and maintenance phase and promote co-existence, the Applicant has committed to implementing such an orientation of wind turbines, where possible, within the Mona Array Area, which is committed to within the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10). Presuming fishing by this receptor group can continue within the Mona Array Area, 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.

6.8.2.56 In light of the above, the impact is predicted to be of local spatial extent, long term duration, intermittent, 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 project infrastructure would only affect an area from which a very small proportion (<5%) 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

6.8.2.57 The presence of the Mona Array Area is expected to restrict the baseline operation of this receptor group (this does not apply for Belgian beam trawl vessels which have confirmed they do not actively fish within the Mona Array Area). Project-specific consultation established that the minimum spacing of wind turbines, outlined in the MDS table (minimum spacing of 1,400 m between wind turbines and 1,400 m between wind turbines in a row), would allow beam trawl vessels from the south west coast of England to continue trawling within the Mona Array Area. Project-specific consultation also established that these vessels fish within the wider Irish Sea and only occasionally

within the Mona Array Area. The baseline review process established that these vessels mostly trawl east of the Mona Array Area, during the Spring period.

6.8.2.58 Even though the minimum spacing between wind turbines is such that continued trawling should be possible, risk still exists from shallow burial of any east – west aligned inter array cables. The Mona Offshore Wind Project will seek to bury these cables to a depth that will enable trawling to take place over them, but in areas of shallow/non-burial, external cable protection may be required. This will be designed to be over-trawlable.

6.8.2.59 This receptor group will lose access to discrete areas as a result of project infrastructure: up to a maximum of 96 wind turbines, a seabed footprint of up to 735,488 m^2 (inclusive of scour protection); up to four OSPs with a seabed footprint of 24,964 m^2 (inclusive of scour protection). Due to the nature of the fishing gear (e.g. limited bottom contact with use of the SumWing), this receptor group is not expected to be affected by the cable protection and cable crossings.

6.8.2.60 Presuming that fishing by this receptor group could continue within the Mona Array Area, 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.

6.8.2.61 In light of the above, the impact is predicted to be of local spatial extent, long term duration, intermittent, and with low reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged project infrastructure would only affect an area from which a very small proportion (<5%) 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

6.8.2.62 The Mona Array Area is located within established queen scallop grounds, on which this receptor group is highly reliant for its annual income (as described above for the construction phase). The presence of the Mona Array Area is expected to restrict the operation of this scallop dredge fishery. Project-specific consultation established that the minimum spacing of wind turbines, outlined in the MDS table (minimum spacing of 1,400 m between wind turbines and 1,400 m between wind turbines in a row), is lower than the preferred distance between wind turbines outlined by the Scottish west coast scallopers (2,800 m to 3,700 m). These scallop vessels tow gear in a north - south alignment within the Mona Array Area, which is the only orientation possible due to tides in the region. Stakeholders also confirmed that gear penetration varied between 0.05-0.25 m, so adequate burial of inter-array cables is important to allow these vessels to continue fishing within the Mona Array Area; the MDS for burial depths of inter-array cables is 0.5 m.

6.8.2.63 Based on the minimum spacing of 1,400 m between wind turbines and 1,400 m between wind turbines in a row, and assuming that all E-W aligned inter-array cables are buried to the target depth of at least 0.5 m, fishing could continue within the Mona Array Area for this receptor group but would be restricted. This receptor group will also lose access to discrete areas as a result of project infrastructure: up to a maximum of 96 wind turbines, a seabed footprint of up to 735,488 m^2 (inclusive of scour protection); up to four OSPs with a seabed footprint of 24,964 m^2 (inclusive of scour protection); up to 32.5 km of inter-array cable protection (up 3 m height); up to 67 inter-array crossings (up to 4 m height); up to 10km of interconnector cable protection (up 3 m height) and up to 10 interconnector crossings (up to 3 m height). up to 72 km of export cable protection (up 3 m height) and up to 24 export cable crossings (up to 3 m height).

The amount and location of external cable protection will be designed to increase potential for coexistence.

6.8.2.64 While taking into account the significant reliance upon the Mona Array Area by this receptor group (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 has committed to a SMZ that covers areas of core scallop grounds located through the centre of the Mona Array Area, 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 Mona Array Area 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 Mona Array Area, reducing the magnitude of impact. Such commitments, including the minimum extent of the SMZ is committed to within the Outline Fisheries Liaison and Co-existence Plan (Document Reference: J10). Through allowing dredging to continue within areas of core scallop grounds of the SMZ, the operations and maintenance phase of the Mona Array Area could lead to a reduction of 5-10% in annual landings.

6.8.2.65 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, and be of low magnitude, as it is judged that it would affect an area from which a minor proportion (5-10%) of the receptor group's annual value of landings is caught. The magnitude of impact is, therefore, considered to be **low**.

Scallop vessels – Isle of Man

6.8.2.66 During project-specific consultation, this receptor group indicated that they would fish within operational wind farms, as the gear type used and vessel size facilitates sufficient manoeuvrability; therefore, they would be able to continue fishing within the Mona Array Area with the minimum spacing of 1,400 m between wind turbines and 1,400 m between wind turbines in a row.

6.8.2.67 This receptor group will lose access to discrete areas as a result of project infrastructure: up to a maximum of 96 wind turbines, a seabed footprint of up to 735,488 m^2 (inclusive of scour protection) and up to four OSPs with a seabed footprint of 24,964 m^2 (inclusive of scour protection). Due to the nature of the fishing gear, this receptor group is not expected to be affected by the cable protection and cable crossings.

6.8.2.68 As described in paragraph 6.8.2.20, the Applicant has committed to a SMZ that covers areas of core scallop grounds located through the centre of the Mona Array Area, in a roughly north – south orientation (committed to within the Outline Fisheries Liaison and Co-existence Plan) (Document Reference: J10). It is assumed, therefore, that fishing by this receptor group will, continue within the SMZ and other areas of the Mona Array Area, mitigating the loss or restricted access to fishing grounds and promoting co-existence during the operations and maintenance phase. The area unsuitable for continued fishing is assessed as representing <5% of the annual value of landings for vessels in this receptor group.

6.8.2.69 In light of the above, the impact is predicted to be of local spatial extent, long term duration, intermittent, and with low reversibility. 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 (<5%) of the receptor group's

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

Other scallop vessels

6.8.2.70 During project-specific consultation, this receptor group indicated that they would fish within operational wind farms and they would be able to continue fishing within the Mona Array Area with the minimum spacing of 1,400 m between wind turbines and 1,400 m between wind turbines in a row, although they highlighted safety concerns due to restricted operations between wind turbines.

6.8.2.71 This receptor group will also lose access to discrete areas as a result of project infrastructure: up to a maximum of 96 wind turbines, a seabed footprint of 735,488 m^2 (inclusive of scour protection); up to four OSPs with a seabed footprint of 24,964 m^2 (inclusive of scour protection); up to 32.5 km of inter-array cable protection (up 3 m height); up to 67 inter-array crossings (up to 4 m height); up to 10 km of interconnector cable protection (up 3 m height) and up to 10 interconnector crossings (up to 3 m height). External cable protection will be designed to increase potential for coexistence; up to 72 km of export cable protection (up 3 m height) and up to 24 export cable crossings (up to 3 m height). External cable protection will be designed to increase potential for coexistence.

6.8.2.72 The Applicant has committed to a SMZ that covers areas of core scallop grounds located through the centre of the Mona Array Area, in a roughly north – south orientation. As it is assumed that fishing will continue within the SMZ and other areas of the Mona Array Area during the operations and maintenance phase, the area unsuitable for continued dredging is assessed as representing <5% of the annual value of landings for vessels in this receptor group.

6.8.2.73 In light of the above, the impact is predicted to be of local spatial extent, long term duration, intermittent, and with low reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged project infrastructure would only affect an area from which a very small proportion (<5%) of the receptor group's commercial annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Sensitivity of receptor

6.8.2.74 The sensitivity of the commercial fisheries receptors is the same as that presented for the detailed assessment above for construction (paragraph 6.8.2.27 to 6.8.2.38). The following sections provide a summary of the sensitivity for each commercial fisheries receptor during the operations and maintenance phase.

Inshore static gear vessels

6.8.2.75 The vessels within this receptor group have limited operational ranges due to their size, are relatively dependant on a limited number of grounds, and have limited ability to deploy alternative gear types.

6.8.2.76 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

6.8.2.77 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

6.8.2.78 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

6.8.2.79 As previously discussed, this receptor group has limited spatial tolerance due to significant dependence upon the commercial fisheries study area for queen scallop dredging. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear.

6.8.2.80 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 – IoM

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

Other scallop vessels

6.8.2.82 As discussed, this receptor group comprises nomadic scallop vessels that are often observed transiting through the Mona Array Area to other parts of the wider Irish Sea. The receptor group exhibits an extensive operational range and is able to reduce loss or restricted access to fishing grounds through their spatial tolerance.

6.8.2.83 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**.

Significance of effect

6.8.2.84 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.17.

Table 6.17: Magnitude, sensitivity and impact significance relating to loss or restricted access to fishing grounds during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Medium	Negligible
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Negligible	Negligible
Scottish west coast scallop vessels	Low	Medium	Minor

Receptor Group	Magnitude	Sensitivity	Effect
IoM scallop vessels	Negligible	Low	Negligible
Other scallop vessels	Negligible	Negligible	Negligible

Decommissioning phase

Magnitude of impact

6.8.2.85 The magnitude of impacts on the commercial fisheries receptors is the same as that presented for the detailed assessment above for construction, as the impacts of the decommissioning phase will be not greater than for the construction phase. This is summarised in Table 6.18.

Sensitivity of receptor

6.8.2.86 The sensitivity of the commercial fisheries receptors is the same as that presented for the detailed assessment above for construction (paragraph 6.8.2.27 to 6.8.2.38), as the impacts of the decommissioning phase will be not greater than for the construction phase. This is summarised in Table 6.18**.**

Significance of effect

6.8.2.87 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.18.

Table 6.18: Magnitude, sensitivity and impact significance relating to loss or restricted access to fishing grounds during decommissioning of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Medium	Negligible
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Negligible	Negligible
Scottish west coast scallop vessels	Low	Medium	Minor
IoM scallop vessels	Low	Low	Negligible
Other scallop vessels	Negligible	Negligible	Negligible

6.8.3 Displacement of fishing activity into other areas

6.8.3.1 The construction, operations and maintenance, and decommissioning phases of the Mona Array Area and Mona Offshore Cable Corridor 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.

6.8.3.2 The MDS is represented by the maximum number of advisory safety zones around infrastructure and installation vessels during construction and decommissioning, and by the maximum amount of infrastructure during operations and maintenance. The MDS is summarised in Table 6.13 and is the same as for the “Loss or restricted access to fishing grounds” impact.

Construction phase

Magnitude of impact

Inshore static gear vessels

6.8.3.3 Displacement of mobile beam trawl and scallop vessels, from the Mona Array Area 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. Displacement of offshore static vessels from the Mona Array Area and part of the Mona Offshore Cable Corridor 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 the east offshore Irish Sea region. Displacement of individual vessels within this receptor group, from the Mona Offshore Cable Corridor within 12 nm, onto adjacent grounds that may be fished by other inshore vessels, is also possible. However, the rolling 500 m safety zone around any cable installation vessels will limit the extent of such displacement. Therefore, displacement of fishing activity during construction is predicted to result in a loss of <5% of this receptor’s annual value of landings.

6.8.3.4 In light of the above, the impact is predicted to be of local 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 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

6.8.3.5 Displacement of mobile vessels deploying beam trawl and scallop dredges from the Mona Array Area, 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 within the 500 m safety 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.

6.8.3.6 In light of the above, the impact is predicted to be of local 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 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

6.8.3.7 Displacement of scallop vessels deploying dredges and offshore static gear, from the Mona Array Area and part of the Mona Offshore Cable Corridor, 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 Mona Array Area and Mona Offshore Cable Corridor beyond 12 nm will be subject to temporary restrictions around major installation vessels). Therefore, in light of the temporary nature of the works and the short to medium term duration (i.e. less than five years), the displacement of fishing activity during construction results in a predicted loss of < 5% of this receptor's annual value of landings.

6.8.3.8 In light of the above, the impact is predicted to be of local 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 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

6.8.3.9 Displacement of offshore static gear, beam trawl vessels and other scallop receptor gear from the Mona Array Area and part of the Mona Offshore Cable Corridor 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). The displacement of fishing activity during construction therefore results in a predicted loss of <5% of this receptor's annual value of landings.

6.8.3.10 In light of the above, the impact 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 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

6.8.3.11 Displacement of other fishing vessels from the Mona Array Area into areas where IoM 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 the 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 IoM 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 IoM 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 IoM waters (29 of which are IoM registered vessels). Of these, 36 can also fish for queen scallops (25 of which are IoM registered vessels). In light of this, and the discrete spatial areas of

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

6.8.3.12 In light of the above, the impact 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 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**.

Other scallop vessels

6.8.3.13 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, due to the highly nomadic nature of this receptor group and exclusion being limited to discrete areas.

6.8.3.14 In light of the above, the impact 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 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 as **negligible**.

Sensitivity of receptor

Inshore static gear vessels

6.8.3.15 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, as previously discussed, 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.

6.8.3.16 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

6.8.3.17 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.

6.8.3.18 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

6.8.3.19 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 commercial fisheries study area, have also been observed to deploy alternative gear types.

6.8.3.20 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

6.8.3.21 As previously discussed, this receptor group has limited spatial tolerance due to significant dependence upon the commercial fisheries study area for queen scallop dredging. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear.

6.8.3.22 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

6.8.3.23 Within the commercial fisheries study area, according to landing statistics, this receptor group almost exclusively operated out of ICES Rectangle 36E5 throughout the study period (2012 to 2022), and project-specific consultation indicates that the IoM vessels are dedicated scallop vessels.

6.8.3.24 IoM scallop vessels are deemed to be of limited spatial adaptability, high spatial tolerance and moderate recoverability. The sensitivity of the receptor is, therefore, considered to be **low**.

Other scallop vessels

6.8.3.25 As discussed, this receptor group comprises nomadic scallop vessels that are often observed transiting through the Mona Array Area to other parts of the wider Irish Sea. The receptor group exhibits an extensive operational range and is able to reduce loss or restricted access to fishing grounds through their spatial tolerance.

6.8.3.26 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**.

Significance of effect

6.8.3.27 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.19.

Table 6.19: Magnitude, sensitivity and impact significance relating to displacement of fishing activity into other areas during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Medium	Negligible
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Negligible	Negligible
Scottish west coast scallop vessels	Negligible	Medium	Negligible

Receptor Group	Magnitude	Sensitivity	Effect
IoM scallop vessels	Negligible	Low	Negligible
Other scallop vessels	Negligible	Negligible	Negligible

Operations and maintenance phase

Magnitude of impact

Inshore static gear vessels

6.8.3.28 It is unlikely that this receptor group will be affected by displacement of vessels from the Mona Array Area, 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 Mona Offshore export cable, which will be fully buried or have external cable protection. Therefore, it is assumed that fishing in the inshore region by this receptor group will be able to continue during the operations and maintenance phase and that any resulting displacement of fishing activity from the Mona Array Area will only lead to a potential reduction of annual value of landings of <5%.

6.8.3.29 In light of the above, the impact is predicted to be of local 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 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 is, therefore, considered to be **negligible**.

Offshore static gear vessels

6.8.3.30 Displacement of mobile vessels deploying beam trawl and scallop dredges during the operations and maintenance phase from the Mona Array Area, 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 Mona Array Area. 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 operations and maintenance phase. Therefore, displacement of fishing activity during the operations and maintenance phase is predicted to result in a predicted loss of <5% of this receptor's annual value of landings.

6.8.3.31 In light of the above, the impact 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 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 is, therefore, considered to be **negligible**.

Beam trawl vessels

6.8.3.32 Project-specific consultation established that these vessels fish within the wider Irish Sea and not specifically within the Mona Offshore Array, highlighting their nomadic nature and operational range. Project-specific consultation established that while operating within the wider commercial fisheries study area, these vessels mostly trawl east of the Mona Array Area, during the Spring period. While direct displacement

caused by possible wind turbine layout within the Mona Array Area is minimal, as a result of their spatial preferences, displacement of other offshore vessels during the operations and maintenance phase from the Mona Array Area into areas where beam trawl vessels operate, could cause conflict between these different receptor groups. However, project-specific consultation established that this receptor group fishes within the wider Irish Sea, and not specifically within the Mona Array Area, highlighting their nomadic nature and relatively high operational range. Therefore, displacement of fishing activity during operations and maintenance results in a predicted loss of <5% of this receptor's annual value of landings.

6.8.3.33 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 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 is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.8.3.34 Displacement of offshore static gear, beam trawl vessels and other scallop receptor gear from the Mona Array Area and part of the Mona Offshore Cable Corridor 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 the Mona Array Area. 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 operations and maintenance phase. Therefore, displacement of fishing activity during the operations and maintenance phase results in a predicted loss of <5% of this receptor's annual value of landings.

6.8.3.35 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 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 is, therefore, considered to be **negligible**.

Scallop vessels – Isle of Man

6.8.3.36 Displacement of other fishing vessels from the Mona Array Area into areas where IoM Scallop vessels fish could create conflict. However, as previously discussed, displacement of non-UK vessels, such as Belgian beam trawl vessels or Irish scallop vessels, into the Manx Territorial Sea (within 12 nm), within the 36E5 will not happen 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 IoM 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 IoM 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 IoM waters (29 of which are IoM registered vessels). Of these, 36 can also fish for queen scallops (25 of which are IoM registered vessels). The displacement of fishing activity during the

operations and maintenance phase therefore results in a predicted loss of <5% of this receptor's annual value of landings.

6.8.3.37 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 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 is, therefore, considered to be **negligible**.

Other scallop vessels

6.8.3.38 Displacement, during the operations 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.

6.8.3.39 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local 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 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 is, therefore, considered to be **negligible**.

Sensitivity of receptor

6.8.3.40 The sensitivity of the receptor groups remains the same as described for the construction phase of this impact and is summarised in Table 6.20.

Significance of effect

6.8.3.41 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.20.

Table 6.20: Magnitude, sensitivity and impact significance relating to displacement of fishing activity into other areas during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Medium	Negligible
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Negligible	Negligible
Scottish west coast scallop vessels	Negligible	Medium	Negligible
IoM scallop vessels	Negligible	Low	Negligible
Other scallop vessels	Negligible	Negligible	Negligible

Decommissioning phase

Magnitude of impact

6.8.3.42 The magnitude of impacts on the commercial fisheries receptor groups remains commercial fisheries receptors is the same as that presented for the detailed assessment above for the construction phase, as the impacts of the decommissioning phase will be not greater than for the construction phase. This is summarised in Table 6.21.

Sensitivity of receptor

6.8.3.43 The sensitivity of the commercial fisheries receptors is the same as that presented for the detailed assessment above for construction, as the impacts of the decommissioning phase will be not greater than for the construction phase. This is summarised in Table 6.18.

Significance of effect

6.8.3.44 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.21.

Table 6.21: Magnitude, sensitivity and impact significance relating to displacement of fishing activity into other areas during decommissioning of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Medium	Negligible
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Negligible	Negligible
Scottish west coast scallop vessels	Negligible	Medium	Negligible
IoM scallop vessels	Negligible	Low	Negligible
Other scallop vessels	Negligible	Negligible	Negligible

6.8.4 Interference with fishing activity

6.8.4.1 The construction, operations and maintenance and decommissioning phases of the Mona Array Area may lead to interference with fishing activity, as a result of increased vessel traffic caused by vessels associated with the Mona Offshore Wind Project or changes to shipping routes. This impact has been scoped out for the operations and maintenance phase of the Mona Offshore Cable Corridor (see section 6.6.2).

6.8.4.2 The MDS is represented by the maximum amount of infrastructure and number of vessel transits which could result in the greatest potential for interference and is summarised in Table 6.13. Full consideration of effects on commercial fishing vessels while transiting, for example collision and allision, is discussed in Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement.

Construction phase

6.8.4.3 During the construction of the Mona Offshore Wind Project (duration of up to four years), there will be a total of 86 construction vessels on site at any one time. There will be up to 2,055 installation vessel movements (return trips) during construction.

Magnitude of impact

6.8.4.4 Measures outlined in section 6.7 will minimise the impact of interference with fishing activity during construction of the Mona Offshore Wind Project. These include notifying the commercial fishing industry in advance of any offshore activities through Notices to Mariners, Kingfisher Bulletins and ongoing liaison by the CFLO and FIR.

6.8.4.5 Although construction vessel traffic will add to the existing level of shipping activity in the area, there are already moderate levels of vessel traffic that exist in the area and there is co-existence of fishing vessels with other marine traffic. Fishing vessels engaged in fishing must exhibit appropriate lighting; and have the right of way over most other marine traffic. Construction vessels in transit would also be fully compliant with the International Regulations for Preventing Collisions at Sea (COLREGS).

6.8.4.6 For all commercial fisheries receptor groups, the impact is predicted to be of local spatial extent, short to medium term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptors directly. The magnitude of impact is, therefore, considered to be **low** for commercial fisheries receptor groups.

Sensitivity of receptor

6.8.4.7 For this impact, the sensitivity has been defined by the vulnerability of the receptor group to potential interference with their fishing activity.

Inshore static gear vessels

6.8.4.8 This receptor group is constituted generally of smaller vessels (<12 m) that deploy static gear and have limited spatial adaptability due to the extent of their operational range. These vessels will only be affected by construction vessels within the Mona Offshore Cable Corridor. The marker buoys and actual gear deployed by the inshore static gear vessels are vulnerable to potential interference by construction vessels, due to their poor visibility. Although these vessels have some ability to deploy alternative gear, this is relatively limited. The sensitivity of the receptor is therefore, considered to be **medium**.

Offshore static gear vessels

6.8.4.9 This commercial fisheries receptor comprises larger offshore vessels (>12 m) that deploy static gear and has high spatial adaptability due to the extent of its operational range. These vessels will only be affected by construction vessels within the Mona Array Area and the Mona Offshore Cable Corridor. The marker buoys deployed by the offshore static gear vessels are vulnerable to potential interference by construction vessels, due to their poor visibility. The offshore static gear vessels are deemed to be of medium vulnerability. The sensitivity of the receptor is therefore, considered to be **medium**.

Beam trawl vessels

6.8.4.10 This commercial fisheries receptor group is constituted generally of larger beam trawl vessels (>12 m) from the south west coast of England and Belgium (although noted that Belgian beam trawl vessels have confirmed they do not actively fish within the

Mona Array Area); these vessels exhibit high spatial adaptability, due to extensive operational ranges. It is expected that these vessels will be in a position to avoid the Mona Offshore Wind Project construction vessels. Construction vessels in transit would be fully compliant with COLREGS, so would not pose a risk to towed fishing gear or require fishing vessels engaged in fishing to alter their course. The beam trawl vessels are deemed to be of negligible vulnerability. The sensitivity of the receptor is therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.8.4.11 This commercial fisheries receptor group is constituted generally of larger vessels (>12 m) from the Scottish west coast. It is expected that these vessels will be in a position to avoid the Mona Offshore Wind Project construction vessels. Construction vessels in transit would be fully compliant with COLREGS, so would not pose a risk to towed fishing gear or require fishing vessels engaged in fishing to alter their course. These scallop vessels are deemed to be of negligible vulnerability. The sensitivity of the receptor is therefore, considered to be **negligible**.

Scallop vessels – Isle of Man

6.8.4.12 This commercial fisheries receptor group is constituted generally of larger vessels (>10 m) from the IoM. It is expected that these vessels will be in a position to avoid the Mona Offshore Wind Project construction vessels. Construction vessels in transit would be fully compliant with COLREGS, so would not pose a risk to towed fishing gear or require fishing vessels engaged in fishing to alter their course. These scallop vessels are deemed to be of negligible vulnerability. The sensitivity of the receptor is therefore, considered to be **negligible**.

Other scallop vessels

6.8.4.13 This receptor group comprises nomadic scallop vessels that are often observed transiting through the Mona Array Area to other parts of the wider Irish Sea. This commercial fisheries receptor group is constituted generally of larger vessels (>12 m) from Ireland and Northern Ireland. It is expected that these vessels will be in a position to avoid the Mona Offshore Wind Project construction vessels. Construction vessels in transit would be fully compliant with COLREGS, so would not pose a risk to towed fishing gear or require fishing vessels engaged in fishing to alter their course. These scallop vessels are deemed to be of negligible vulnerability. The sensitivity of the receptor is therefore, considered to be **negligible**.

Significance of effect

6.8.4.14 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.22.

Table 6.22: Magnitude, sensitivity and impact significance relating to interference with fishing activity during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Low	Medium	Minor
Offshore static gear vessels	Low	Medium	Minor

Receptor Group	Magnitude	Sensitivity	Effect
Beam trawl vessels	Low	Negligible	Negligible
Scottish west coast scallop vessels	Low	Negligible	Negligible
IoM scallop vessels	Low	Negligible	Negligible
Other scallop vessels	Low	Negligible	Negligible

Operations and maintenance phase

6.8.4.15 During the operations and maintenance phase of the Mona Offshore Wind Project there will be a total of up to 21 operations and maintenance vessels on site at any one time. There will be up to 849 operations and maintenance vessel movements (return trips) during operational lifetime.

Magnitude of impact

6.8.4.16 Measures outlined in section 6.7 will minimise the impact of interference with fishing activity during operations and maintenance of the Mona Offshore Wind Project. The commercial fishing industry will be fully informed in advance of any offshore activities through Notices to Mariners, Kingfisher Bulletins and ongoing liaison by the CFLO and FIR.

6.8.4.17 Although operations and maintenance vessel traffic will add to the existing level of shipping activity in the area, there are already moderate levels of vessel traffic in the area, and there is co-existence of fishing vessels with other marine traffic. Fishing vessels engaged in fishing must exhibit appropriate lighting and have the right of way over most other marine traffic. Operation and maintenance vessels in transit would also be fully compliant with COLREGS.

6.8.4.18 With regard to any cable repair/remediation events undertaken by project vessels during the operations and maintenance phase across the Mona Array Area and Offshore Cable Corridor, this would lead to some temporary, spatially limited impacts where vessels would be requested to avoid such areas for the duration of the works.

6.8.4.19 For all commercial fisheries receptor groups, the impact is predicted to be of local spatial extent, long term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptors directly. However, the magnitude of impact is predicted to be greater for receptor groups active within the Mona Array Area during operations and maintenance, rather than those active inshore. The magnitude of impact is, therefore, considered to be **negligible** for inshore static gear vessels and **low** for all other commercial fisheries receptor groups, as summarised in Table 6.23.

Sensitivity of receptor

6.8.4.20 The sensitivity of the receptor groups remains the same as described for the construction phase of this impact and summarised in Table 6.23.

Significance of effect

6.8.4.21 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.23.

Table 6.23: Magnitude, sensitivity and impact significance relating to interference with fishing activity during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Medium	Negligible
Offshore static gear vessels	Low	Medium	Minor
Beam trawl vessels	Low	Negligible	Negligible
Scottish west coast scallop vessels	Low	Negligible	Negligible
IoM scallop vessels	Low	Negligible	Negligible
Other scallop vessels	Low	Negligible	Negligible

Decommissioning phase

6.8.4.22 During the decommissioning phase the changes would gradually decrease from the operations and maintenance MDS as the need for project-related vessels is reduced.

Magnitude of impact

6.8.4.23 The magnitude of impacts on the commercial fisheries receptors is the same as that presented for the detailed assessment above for the construction phase, as the impacts of the decommissioning phase will be not greater than for the construction phase. This is summarised in Table 6.24.

Sensitivity of receptor

6.8.4.24 The sensitivity of the commercial fisheries receptors is the same as that presented for the detailed assessment above for the construction phase, as the impacts of the decommissioning phase will be not greater than for the construction phase. Thisis summarised in Table 6.24.

Significance of effect

6.8.4.25 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.24.

Table 6.24: Magnitude, sensitivity and impact significance relating interference with fishing activity during decommissioning of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Low	Medium	Minor
Offshore static gear vessels	Low	Medium	Minor
Beam trawl vessels	Low	Negligible	Negligible

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Low	Negligible	Negligible
IoM scallop vessels	Low	Negligible	Negligible
Other scallop vessels	Low	Negligible	Negligible

6.8.5 Temporary increase in steaming distances

6.8.5.1 The construction and decommissioning phases of the Mona Array Area may lead to increased steaming times and distances for commercial fishing vessels, which could increase operational costs. This impact has been scoped out for all phases of the Mona Offshore Cable Corridor, and for the operations and maintenance phase of the Mona Array Area (see section 6.6.2), as fishing vessels will be able to transit through to/from adjacent fishing grounds.

6.8.5.2 The MDS is represented by the maximum number of advisory safety zones around infrastructure and installation vessels during construction and decommissioning and is summarised in Table 6.13. Full consideration of effects on commercial fishing vessels while transiting, for example collision and allision, is discussed in Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement.

Construction phase

6.8.5.3 There will be 500 m safety zones around vessels installing wind turbines and OSPs during their construction. There will also be a 50 m safety zone around each item of infrastructure during the construction phase when no construction works are taking place on that infrastructure (for example, where a wind turbine is incomplete or is in the process of being tested before commissioning). Rolling advisory safety zones of 500 m will be in place around vessels installing inter-array cables, interconnector cables and subtidal export cables.

Magnitude of impact

6.8.5.4 Measures outlined in section 6.7 will minimise the impact of any increased steaming distances during construction. The commercial fishing industry will be fully informed in advance of any offshore activities through Notices to Mariners, Kingfisher Bulletins and ongoing liaison by the CFLO and FIR.

6.8.5.5 It is anticipated that transiting fishing vessels will only be required to take minor deviations, as impacts will localised to the immediate area of construction and construction vessels, with the use of rolling construction zones.

6.8.5.6 No change has been predicted for the inshore static gear vessels commercial fisheries receptor group, as the impact has been scoped out of the Mona Offshore Cable Corridor.

6.8.5.7 The impact is predicted to be of local extent, short to medium term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is, therefore, considered to be **negligible** for all other commercial fisheries receptor groups.

Sensitivity of receptor

6.8.5.8 All commercial fisheries receptor groups have operational ranges that are beyond that of the areas of construction, so have the ability to make deviations to transit routes. Providing that adequate notification is given, these fishing vessels will be in a position to avoid construction areas, with limited impact upon steaming times.

6.8.5.9 Inshore static gear vessels will not be affected by construction of the Mona Array Area, as they are only active further inshore. All other commercial fisheries receptor groups are deemed to be of low vulnerability, high spatial adaptability, high spatial tolerance and moderate recoverability to this impact. The sensitivity of all commercial fisheries receptors is, therefore, considered to be **low**.

Significance of effect

6.8.5.10 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.25.

Table 6.25: Magnitude, sensitivity and impact significance relating to temporary increase in steaming distances during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	No change	No change	No change
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Low	Negligible
Scottish west coast scallop vessels	Negligible	Low	Negligible
IoM scallop vessels	Negligible	Low	Negligible
Other scallop vessels	Negligible	Low	Negligible

Decommissioning phase

Magnitude of impact

6.8.5.11 The magnitude of impact on commercial fisheries receptors is the same as that presented for the detailed assessment above for the construction phase, as increases in steaming distances during the decommissioning phase will be not greater than for the construction phase. The magnitude is therefore, considered to be **negligible** for all commercial fisheries receptor groups.

Sensitivity of receptor

6.8.5.12 The sensitivity of all commercial fisheries receptors is the same as that presented for the assessment above for the construction phase, as increases in steaming distances during the decommissioning phase will be not greater than for the construction phase. The sensitivity of all commercial fisheries receptors is therefore, considered to be **low**.

Significance of effect

6.8.5.13 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.26.

Table 6.26: Magnitude, sensitivity and impact significance relating to temporary increase in steaming distances during decommissioning of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	No change	No change	No change
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Low	Negligible
Scottish west coast scallop vessels	Negligible	Low	Negligible
IoM scallop vessels	Negligible	Low	Negligible
Other scallop vessels	Negligible	Low	Negligible

6.8.6 Loss or damage to fishing gear due to snagging

6.8.6.1 The construction, operations and maintenance and decommissioning of the Mona Array Area and Mona Offshore Cable Corridor 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 inter-array cables, offshore export cables and associated cable protection.

6.8.6.2 The MDS is represented by the maximum amount of infrastructure associated with the project and is summarised in Table 6.13. Safety risk for fishing vessels associated with potential gear snagging is assessed in Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement.

Construction phase

6.8.6.3 The progressive installation of infrastructure during the construction phase of the Mona Offshore Wind Project 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.

Magnitude of impact

6.8.6.4 Measures outlined in section 6.7 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 CFLO and FIR. Use of advisory clearance distances and safety zones 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.

Inshore static gear vessels

6.8.6.5 The main element of construction activity that will impact this receptor group is the installation of the Mona Offshore Cable Corridor within the inshore region. WNMP data indicates relatively low static gear activity across the Mona Offshore Cable Corridor. Based on this, and the proposed measures adopted as part of the Mona Offshore Wind Project and the commitments to follow standard protocols, a relatively low proportion of this receptor's annual landings may be affected. Therefore, the construction phase is assessed to have a predicted loss of <5% of this receptor's annual value of landings.

6.8.6.6 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. less than five years), intermittent, and with high reversibility due the temporary nature of the works. It is predicted that the impact will affect the receptor directly. The magnitude of impact is, therefore, considered to be **negligible**.

Offshore static gear vessels

6.8.6.7 This receptor group will be affected by construction works at the Mona Array Area and the section of the Mona Offshore Cable Corridor beyond 12 nm. As previously discussed for this receptor group, VMS data indicates relatively low levels of offshore static fishing gear in this area. Based on this, and on the proposed measures adopted as part of the Mona Offshore Wind Project and the commitments to follow standard protocols, loss or damage to fishing gear due to snagging in the construction phase is assessed to have a predicted loss of <5% of this receptor's annual landings.

6.8.6.8 In light of the above, the impact 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 will affect the receptor directly. The magnitude of impact is therefore, considered to be **negligible**.

Beam trawl vessels

6.8.6.9 The main element of construction activity that will affect this receptor is the installation of the Mona Array Area. Project-specific consultation established that these vessels fish within the wider Irish Sea and not only within the commercial fisheries study area, highlighting their nomadic nature. While operating within the commercial fisheries study area, these vessels mostly trawl east of the Mona Array Area, during the Spring period. Based on this, and on the proposed measures adopted as part of the Mona Offshore Wind Project, and the commitments to follow standard protocols, loss or damage to fishing gear due to snagging in the construction phase is assessed to have a predicted loss of <5% of this receptor's annual landings.

6.8.6.10 In light of the above, the impact is predicted to be of local 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 will affect the receptor directly. The magnitude of impact is therefore considered **negligible**.

Scallop vessels – Scottish west coast

6.8.6.11 The main element of construction activity that will affect this receptor is the installation of the Mona Array Area (duration of up to four years, including seabed preparation). Through close liaison with stakeholders (SFF, SWFPA and WCSP), project-specific consultation has established that Scottish west coast scallop vessels are considerably active and rely heavily upon the Mona Array Area for the dredging of queen scallop; August to December being particularly important months. However, based on the proposed measures adopted as part of the Mona Offshore Wind Project, and the commitments to follow standard protocols, loss or damage to fishing gear due to

snagging during the construction phase is assessed to have a predicted loss of <5% of this receptor's annual landings.

6.8.6.12 In light of the above, the impact is predicted to be of local 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 will affect the receptor directly. The magnitude of impact is therefore considered **negligible**.

Scallop vessels – Isle of Man

6.8.6.13 The main element of construction activity that will affect this receptor is the installation of the Mona Array Area. As previously discussed for this receptor group, landing statistics indicate that IoM scallop vessels almost exclusively operate out of ICES Rectangle 36E5, within which only a relatively small section in the west of the Mona Array Area is positioned. Fisheries monitoring has, to date, recorded 2 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 Mona Offshore Wind Project and the commitments to follow standard protocols, loss or damage to fishing gear due to snagging in the construction phase is assessed to have a predicted loss of <5% of this receptor's annual landings.

6.8.6.14 In light of the above, the impact is predicted to be of local 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 will affect the receptor directly. The magnitude of impact is therefore considered **negligible**.

Other scallop vessels

6.8.6.15 The main element of construction activity that will affect this receptor is the installation of the Mona Array Area. While landing statistics indicate relative importance for scallop within the commercial fisheries study, remote monitoring has established that these vessels are highly nomadic, often pass through the Mona Array Area 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 Mona Offshore Wind Project and the commitments to follow standard protocols, loss or damage to fishing gear due to snagging in the construction phase is assessed to have a predicted loss of <5% of this receptor's annual landings.

6.8.6.16 The impact 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 receptor directly. The magnitude is therefore, considered to be **negligible**.

Sensitivity of receptor

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

Inshore static gear vessels

6.8.6.18 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 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**.

Offshore static gear vessels

6.8.6.19 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

6.8.6.20 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.

6.8.6.21 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

6.8.6.22 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, as previously discussed. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear.

6.8.6.23 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 considered to be **high**.

Scallop vessels – Isle of Man

6.8.6.24 This receptor group almost exclusively operates out of ICES Rectangle 36E5 and, therefore, exhibits moderate spatial adaptability. Project-specific consultation indicates that vessels within this receptor group are dedicated scallop vessels, with limited ability to deploy alternative gear.

6.8.6.25 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. 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 considered to be **medium**.

Other scallop vessels

6.8.6.26 As discussed, this receptor group comprises nomadic scallop vessels that are often observed transiting through the Mona Array Area 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.

6.8.6.27 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 considered to be **medium.**

Significance of effect

6.8.6.28 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.27.

Table 6.27: Magnitude, sensitivity and impact significance relating to loss or damage to fishing gear due to snagging during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Low	Negligible
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Medium	Negligible
Scottish west coast scallop vessels	Negligible	High	Minor
IoM scallop vessels	Negligible	Medium	Negligible
Other scallop vessels	Negligible	Medium	Negligible

Operations and maintenance phase

6.8.6.29 During the operations and maintenance phase of the Mona Offshore Wind Project, cables will be buried (where possible) to a minimum depth of 0.5 m, however potential exists for inter-array cables, interconnector cables and export cables to become shallow-buried or exposed due to changes in seabed conditions.

6.8.6.30 Associated external cable protection could also present a snagging risk to fishing vessels:

6.8.6.31 Up to 10% of the inter-array cables (up to 32.5 km) may require external cable protection; up to 20% of the interconnectors (up to 10 km) and up to 20% of the export cables (up to 72 km) may also require external cable protection. There will be a maximum of 67 inter-array cable crossings, up to 10 interconnector crossings and up to 24 export cable crossings, all of which will likely require external cable protection. Scour protection could also extend up to 21 m from each wind turbine structure to a height of 2.5 m above seabed level.

Magnitude of impact

6.8.6.32 Measures outlined in section 6.7 will minimise the risks of snagging during operations and maintenance.

6.8.6.33 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, the locations of which would be communicated to all commercial fisheries groups.

6.8.6.34 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).

6.8.6.35 Project infrastructure, including the 'as-laid' coordinates of the offshore export cable, inter-array cables and interconnector cables, shall be recorded and submitted to the UKHO and Kingfisher for inclusion on charts. 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 and safety zones 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.

6.8.6.36 Based on the proposed measures adopted as part of the Mona Offshore Wind Project, 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 similar to that of the construction phase, as summarised in Table 6.28.

Sensitivity of receptor

6.8.6.37 The sensitivity of the receptor groups remains the same as described for the construction phase of this impact, as summarised in Table 6.28.

Significance of effect

6.8.6.38 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.28.

Table 6.28: Magnitude, sensitivity and impact significance relating to loss or damage to fishing gear due to snagging during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Low	Negligible
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Medium	Negligible
Scottish west coast scallop vessels	Negligible	High	Minor
IoM scallop vessels	Negligible	Medium	Negligible
Other scallop vessels	Negligible	Medium	Negligible

Decommissioning phase

Magnitude of impact

6.8.6.39 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 construction phase, as summarised in Table 6.29.

Sensitivity of receptor

6.8.6.40 The sensitivity of all commercial fisheries receptors during decommissioning is deemed to be the same as for the construction phase, as summarised in Table 6.29.

Significance of effect

6.8.6.41 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.29.

Table 6.29: Magnitude, sensitivity and impact significance relating to loss or damage to fishing gear due to snagging during decommissioning of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Low	Negligible
Offshore static gear vessels	Negligible	Low	Negligible
Beam trawl vessels	Negligible	Medium	Negligible
Scottish west coast scallop vessels	Negligible	High	Minor
IoM scallop vessels	Negligible	Medium	Negligible
Other scallop vessels	Negligible	Medium	Negligible

6.8.7 Potential impacts on commercially important fish and shellfish resources

6.8.7.1 The following potential impacts on fish and shellfish ecology via the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Project have been identified:

- Temporary habitat loss/disturbance
- Underwater noise creating injury and/or disturbance
- Increased suspended sediment concentrations (SSCs) and associated sediment deposition
- Long-term habitat loss
- Electromagnetic Fields (EMFs) from subsea electrical cabling
- Colonisation of hard structures

- Disturbance/remobilisation of sediment-bound contaminants
- Injury due to increased risk of collision with vessels.

6.8.7.2 These potential impacts on fish and shellfish ecology are assessed within Volume 2, Chapter 3: Fish and Shellfish Ecology of the Environmental Statement. The Mona fish and shellfish ecology study area covers the east Irish Sea, extending from MHWS west from the Mull of Galloway in Scotland to the west tip of Anglesey, following the territorial waters/12 nm limit of the IoM.

6.8.7.3 As discussed in Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement and Table 6.8, the following species are of commercial importance within the commercial fisheries study area and are, therefore, the focus of this assessment:

- Queen scallop
- King scallop
- Herring[9]
- Lobster
- Sole
- Plaice
- Whelk.

6.8.7.4 Injury due to increased risk of collision with vessels has only been assessed for basking sharks and is therefore not considered within this chapter.

Construction phase

6.8.7.5 There is potential for the construction phase to have 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.

6.8.7.6 The fish and shellfish ecology assessment concluded that for all impacts during the construction phase of the Mona Offshore Wind Project, 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, IoM and other scallop vessels receptor groups.

6.8.7.7 The fish and shellfish ecology assessment concluded that for all impacts during the construction phase of the Mona Offshore Wind Project, the effect will be of **minor adverse** significance for European lobster and *Nephrops,* which is not significant in EIA terms. Therefore, no significant impact is predicted for the inshore and offshore static gear vessel receptor groups.

6.8.7.8 The fish and shellfish ecology assessment concluded that for all impacts during the construction phase of the Mona Offshore Wind Project, the effect will be of **minor adverse** significance for herring, which is not significant in EIA terms. Although a discrete commercial fishery was not identified via the baseline activity report, and thus,

[9] Commercial fishing vessels targeting this species have not been observed to be active within the Mona Array Area or Mona Offshore Cable Corridor, therefore have not been included as a separate receptor group within this assessment.

no specific commercial fisheries receptor group was assigned to this fishery, it can be concluded that no significant impact is predicted for any vessels that target herring within the commercial fisheries study area.

6.8.7.9 The fish and shellfish ecology assessment concluded that for all impacts during the construction phase of the Mona Offshore Wind Project, the effect will be of **minor adverse** significance for all other fish and shellfish ecology Important Ecological Features (IEFs), 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.

Operations and maintenance phase

6.8.7.10 There is potential for the operations 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.

6.8.7.11 Overall, the fish and shellfish ecology assessment concluded that the significance of effect for temporary habitat loss/disturbance, increased SSCs and associated sediment deposition, long-term habitat loss and colonisation of hard structures during the operations and maintenance phase remains the same as described in the construction phase above. Therefore, no significant impact for the Scottish west coast scallop vessels, IoM scallop vessels, other scallop vessels, beam trawl vessels, inshore and offshore static gear receptor groups is predicted.

6.8.7.12 Overall, the fish and shellfish ecology assessment concluded that the significance of effect for disturbance/remobilisation of sediment-bound contaminants during the operations and maintenance phase remains mostly the same as described in the construction phase above for European lobster, *Nephrops*, herring, and all other fish and shellfish ecology IEFs. The following significance of effects are, therefore, concluded as **minor adverse**.

6.8.7.13 The fish and shellfish ecology assessment concluded that the significance of EMFs from subsea electrical cabling during the operations and maintenance phase is **minor adverse** for all species.

6.8.7.14 Therefore, no significant impacts are predicted for the inshore and offshore static gear vessel receptor groups, vessels targeting herring, or the beam trawl vessels receptor groups. For king and queen scallop, a negligible significance is concluded, which is not significant in EIA terms. Therefore, no significant impact is predicted for the Scottish west coast, IoM and other scallop vessels receptor groups.

Decommissioning phase

6.8.7.15 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.

6.8.7.16 In light of the above, no significant impact is predicated for each of the six identified commercial fisheries receptor groups in Table 6.8 during the decommissioning phase.

6.8.8 Supply chain opportunities for local fishing vessels

6.8.8.1 The construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project may lead to supply chain opportunities for local fishing vessels. The MDS is summarised in Table 6.13.

Construction phase

6.8.8.2 During the construction phase (up to four years duration) of the Mona Offshore Wind Project, the following are areas of potential support that could be provided by local commercial fishing operators:

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

Magnitude of impact

6.8.8.3 Due to this impact being beneficial, the definition for magnitude has been amended to align with the terms for beneficial impacts that are outlined in Table 5.4 of Volume 1, Chapter 5: EIA methodology of the Environmental Statement.

Inshore static gear vessels

6.8.8.4 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 Mona Offshore Wind Project. 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.

6.8.8.5 The exception to this is potentially undertaking scouting surveys in the inshore Mona Offshore Cable Corridor, 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.

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

6.8.8.7 The impact is predicted to be of local spatial extent, short to medium term duration 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**.

Offshore static gear vessels

6.8.8.8 The impact is predicted to be of local spatial extent, short to medium term duration 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**.

Beam trawl vessels

6.8.8.9 The impact is predicted to be of local spatial extent, short to medium term duration 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**.

Scallop vessels – Scottish west coast

6.8.8.10 The impact is predicted to be of local spatial extent, short to medium term duration 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**.

Scallop vessels – Isle of Man

6.8.8.11 The impact is predicted to be of local spatial extent, short to medium term duration 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**.

Other scallop vessels

6.8.8.12 The impact is predicted to be of local spatial extent, short to medium term duration 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**.

Sensitivity of receptor

6.8.8.13 For this impact, the sensitivity has been defined by the likely potential that the receptor group has for providing support to the Mona Offshore Wind Project.

Inshore static gear vessels

6.8.8.14 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

6.8.8.15 These vessels have moderate suitability to provide marine operational support during the construction phase. This is based on the vessels being larger, and therefore having larger operational ranges and capacity to provide support, in addition to the assumption that vessels have the relevant workboat certifications for the vessel and crew. Multiple vessels from this receptor group have provided support as scout vessels during initial offshore surveys. The sensitivity of the receptor is therefore, considered to be **medium**.

Beam trawl vessels

6.8.8.16 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 sensitivity of the receptor is therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.8.8.17 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

6.8.8.18 These vessels have moderate suitability to provide marine operational support during the construction phase. This is based on the vessel type and size which means they have the capacity to provide support; in addition to the assumption that vessels have the relevant workboat certifications for the vessel and crew. The sensitivity of the receptor is therefore, considered to be **medium**.

Other scallop vessels

6.8.8.19 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**.

Significance of effect

6.8.8.20 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.30.

Table 6.30: Magnitude, sensitivity and impact significance relating to supply chain opportunities for local fishing vessels during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Negligible	Negligible
Offshore static gear vessels	Low	Medium	Minor
Beam trawl vessels	Low	Negligible	Negligible
Scottish west coast scallop vessels	Low	Low	Minor
IoM scallop vessels	Low	Medium	Minor
Other scallop vessels	Low	Low	Minor

Operations and maintenance phase

6.8.8.21 During the operations and maintenance phase (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.

Magnitude of impact

6.8.8.22 Due to this impact being beneficial, the definition for magnitude has been amended to align with the terms for beneficial impacts, that are outlined in Table 5.4 of Volume 1, Chapter 5: EIA methodology.

6.8.8.23 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**.

6.8.8.24 The magnitude for all other commercial fisheries receptor groups during the operations 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**.

Sensitivity of receptor

6.8.8.25 For this impact, the sensitivity has been defined by the likely potential the receptor group has to provide support to the Mona Offshore Wind Project.

6.8.8.26 The sensitivity of the receptor groups remains the same as described for the construction phase of this impact, as summarised in Table 6.31.

Significance of effect

6.8.8.27 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.31.

Table 6.31: Magnitude, sensitivity and impact significance relating to supply chain opportunities for local fishing vessels during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Inshore static gear vessels	Negligible	Negligible	Negligible
Offshore static gear vessels	Negligible	Medium	Minor
Beam trawl vessels	Negligible	Negligible	Negligible
Scottish west coast scallop vessels	Negligible	Low	Negligible
IoM scallop vessels	Negligible	Medium	Minor
Other scallop vessels	Negligible	Low	Negligible

Decommissioning phase

6.8.8.28 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 6.30.

6.8.9 Potential impacts on commercial fisheries as a result of increased risk of introduction and spread of INNS

6.8.9.1 As assessed in chapter 7: Benthic subtidal and intertidal ecology of the Environmental Statement, no significant effects are likely to occur as a result of the risk of introduction and spread of INNS during the construction, operations and maintenance and decommissioning phases. This is due to the fact that only a small proportion of the Mona benthic subtidal and intertidal ecology study area that may be colonised. Furthermore, measures have been adopted to minimise the effects from introduction or spread of INNS. Therefore, as a result there will be no significant effects on commercial fisheries.

6.8.10 Future monitoring

6.8.10.1 Table 6.32 below outlines the proposed monitoring commitments for commercial fisheries.

Table 6.32: Monitoring commitments.

Environmental effect	Monitoring commitment	Means of implementation
Potential snagging risk of inter-array interconnector and/or subtidal export cables.	Preparation of an Offshore CMS post-consent with details of cable monitoring to reduce loss or damage to fishing gear due to snagging.	The offshore CMS is secured under schedule 14 of the deemed marine licence within the Draft DCO and is expected to be secured within the standalone NRW marine licence.

6.9 Cumulative effect assessment methodology

6.9.1 Methodology

6.9.1.1 The CEA takes into account the impact associated with the Mona Offshore Wind Project 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 5, Annex 5.1: Cumulative effects screening matrix of the Environmental Statement). 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.

6.9.1.2 The commercial fisheries CEA methodology has followed the methodology set out in Volume 1, Chapter 5: EIA methodology of the Environmental Statement. As part of the assessment, all projects and plans considered alongside the Mona Offshore Wind Project have been allocated into ‘tiers’ reflecting their current stage within the planning and development process, these are listed below.

6.9.1.3 A tiered approach to the assessment has been adopted, as follows:

- Tier 1
  - Under construction
  - Permitted application
  - Submitted application
  - Those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact

- Tier 2
  - Scoping Report has been submitted and is in the public domain
- Tier 3
  - Scoping Report has not been submitted and is not in the public domain
  - Identified in the relevant Development Plan
  - Identified in other plans and programmes
  - Marine Protected Areas (MPAs) including Special Areas of Conservation (SACs), Special Areas of Protection (SPAs) and MCZs within the Mona CEA commercial fisheries study area that are expected to be subject to new fisheries management measures over the lifetime of this project, via The Fisheries Act 2020.

6.9.1.4 This tiered approach is adopted to provide a clear assessment of the Mona Offshore Wind Project alongside other projects, plans and activities. The specific projects, plans and activities scoped into the CEA, are outlined in Table 6.33 and displayed in Figure 11.7.

6.9.1.5 The range of potential cumulative impacts is identified in Table 6.34 and is a subset of those considered for the Mona Offshore Wind Project alone. Where the potential significant effect for the Mona Offshore Wind Project 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.

6.9.1.6 Given the operational ranges of the fishing fleets active in the region, the scope of the CEA for commercial fisheries is larger than the commercial fisheries study area used to assess impacts in section 6.8; and is defined by ICES rectangles 35E5, 35E6, 35E7, 36E5, 36E6, 36E7, 37E5, 37E6 and 37E7 (Figure 6.1). This wider area will ensure that relevant fishing grounds are captured for the different fishing fleets. Projects outside of this wider area have not been screened in.

6.9.1.7 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[10], 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.

[10] Aggregate areas have been considered with regard to fish and shellfish ecology, as described in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.

Table 6.33: List of other projects, plans and activities considered within the CEA.

Project/Plan	Status	Distance from the Mona array area (km)	Distance from the Mona offshore/onshore cable corridor (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Tier 1-							
Awel y Mor Offshore Wind Farm	Permitted but not yet implemented	12.2	3.60	Offshore wind farm.	2025 to 2029	2030	Yes
West Anglesey Demonstration Zone tidal site	Permitted but not yet implemented	53.7	50.6	Tidal energy project.	Unknown	2025	Yes
Tier 2-							
Morgan Offshore Wind Project: Generation Assets	Pre-application	5.52	32.93	Proposed offshore wind farm. Maximum of 108 wind turbines. Area: 322.2 km^2.	2026	2030	Yes
Morecambe Offshore Wind Farm Generation Assets	Pre-application	8.9	21.5	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
Morgan Offshore Wind Project and Morecambe Offshore Wind Farm Transmission Assets	Pre-application	8.92	21.53	Coordinated transmission assets for the Morgan Offshore Wind Project and the Morecambe offshore wind farm.	2026	2030	Yes

Project/Plan	Status	Distance from the Mona array area (km)	Distance from the Mona offshore/onshore cable corridor (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Mooir Vannin Offshore Windfarm (IoM)	Pre-application	34.5	59.9	Proposed offshore wind farm. Maximum of 100 fixed wind turbines. Area: 253 km^2.	2030 to 2032	2032	Yes
Tier 3-							
West of Walney MCZ	Designated	32	44	Total area of 388 km^2. Protected for sea-pen and burrowing megafauna communities, and subtidal mud and sand.	n/a	n/a	No
West of Copeland MCZ	Designated	39	54	Total area of 158 km^2. Protected for subtidal coarse and mixed sediments and subtidal sand.	n/a	n/a	No
Fylde MCZ	Designated	29	33	Total area of 261 km^2. Protected for subtidal mud and sand.	n/a	n/a	No
Liverpool Bay SPA	Designated	17	0	Total area of 2,528 km^2.	n/a	n/a	Yes

Project/Plan	Status	Distance from the Mona array area (km)	Distance from the Mona offshore/onshore cable corridor (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
				Protected for a range of bird species.			
Shell Flat and Lune Deep SAC	Designated	29	40	Total area of 106 km^2. Protected for reefs feature large subtidal sand	n/a	n/a	No

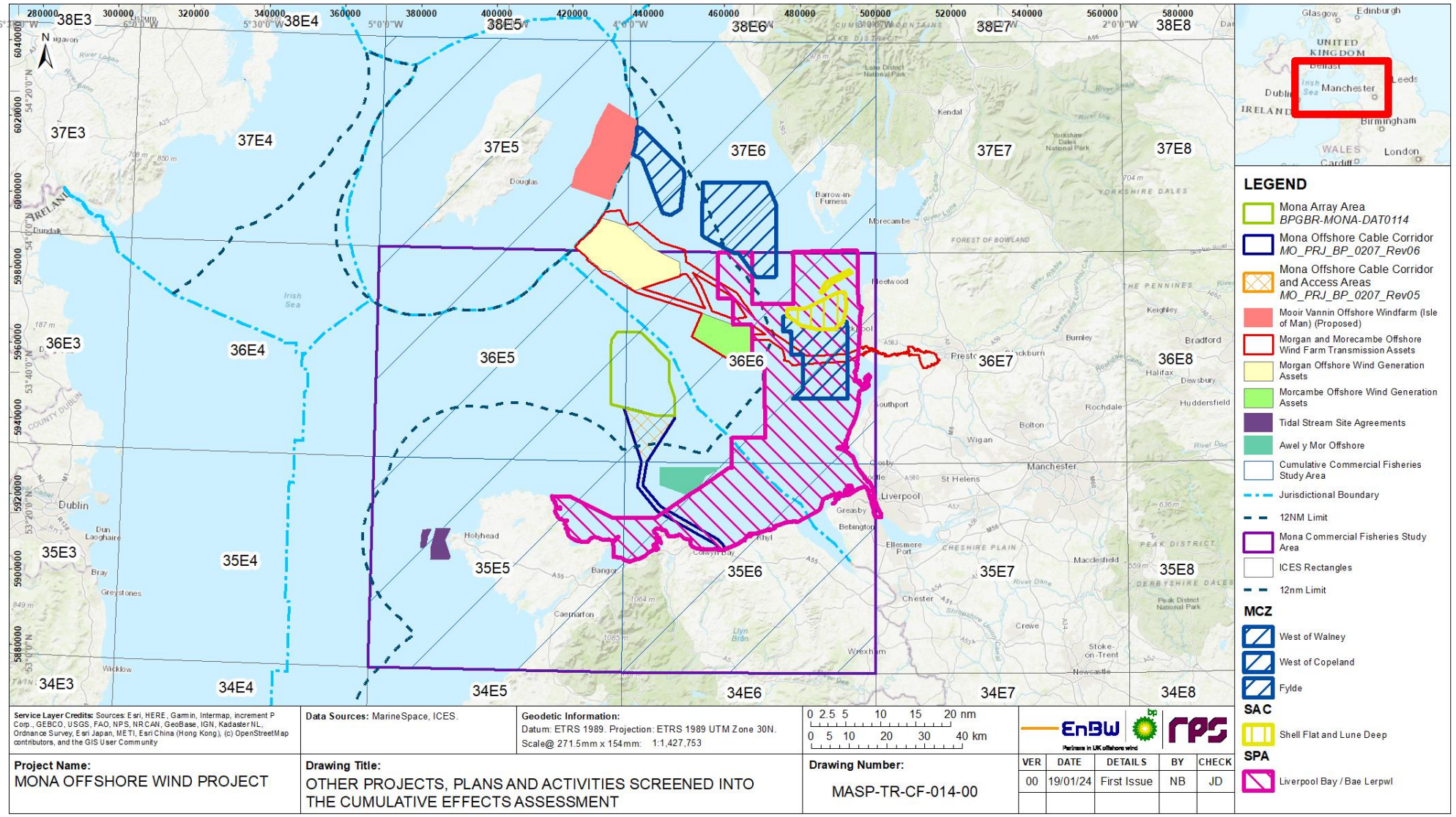

Figure 6.7: Other projects, plans and activities screened into the cumulative effects assessment.

6.9.2 Maximum design scenario

6.9.2.1 The MDSs identified in Table 6.34 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been selected from the Rochdale Design Envelope provided in Volume 1, Chapter 3: Project description of the Environmental Statement, as well as the information available on other projects and plans, in order to inform a 'MDS'. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Rochdale Design Envelope (e.g. different wind turbine layout), to that assessed here, be taken forward in the final design scheme.

Table 6.34: MDS considered for the assessment of potential cumulative effects on commercial fisheries.

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

Potential cumulative effect	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Loss or restricted access to fishing grounds	✓	✓	✓	MDS as described for the Mona Offshore Wind Project (Table 6.13) assessed cumulatively with the following other projects/plans: Tier 1 • One offshore wind farm • One tidal energy project. Tier 2 • Three proposed offshore wind farms and one combined offshore wind farm export cable. Tier 3 • Five MPAs.	Outcome of the CEA will be greatest when the greatest number of other schemes, which would result in a loss or restricted access to fishing ground, are considered within the cumulative commercial fisheries study area.
Interference with fishing activity	✓	✓	✓	MDS as described for the Mona Offshore Wind Project (Table 6.13) assessed cumulatively with the following other projects/plans: Tier 1 • One offshore wind farm • One tidal energy project. Tier 2 • Three proposed offshore wind farms and one combined offshore wind farm export cable.	
Loss or damage to fishing gear due to snagging	✓	✓	✓	MDS as described for the Mona Offshore Wind Project (Table 6.13) assessed	Outcome of the CEA will be greatest when the greatest number of other schemes, which would result in loss or damage to fishing gear due to

Potential cumulative effect	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				cumulatively with the following other projects/plans: Tier 1 • One offshore wind farm • One tidal energy project. Tier 2 • Three proposed offshore wind farms and one combined offshore export cable.	snagging, are considered within the cumulative commercial fisheries study area.
Potential impacts on commercially important fish and shellfish stocks	✓	✓	✓	• As described in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.	Outcome of the CEA will be greatest when the greatest number of other schemes, which would result in potential impacts on commercially important fish and shellfish stocks, are considered within the cumulative commercial fisheries study area.

6.10 Cumulative effects assessment

6.10.1 Overview

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

6.10.1.2 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, operational and decommissioning phases. Effects and receptor groups are only discussed where there is the potential for a cumulative effect to arise.

6.10.2 Loss or restricted access to fishing grounds

6.10.2.1 For loss or restricted access to fishing grounds, the potential significant effect for the Mona Offshore Wind Project alone, across all phases, is assessed as negligible for all receptor groups other than the Scottish west coast scallop vessels. Therefore, only the Scottish west coast 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.

Tier 1

Construction phase

6.10.2.2 There is potential for cumulative loss or restricted access to fishing grounds for Scottish west coast scallopers, as a result of the Mona Offshore Wind Project construction phase which will overlap with the projects listed in Table 6.33.

Magnitude of impact

Scallop vessels – Scottish west coast

6.10.2.3 Cumulative impact with the Awel y Môr Offshore Wind Farm will occur where there is a temporal overlap of construction works, with the south limits of the scallop fishery that is targeted by this receptor group. The construction phase of Awel y Môr is expected to have a medium magnitude of impact on these scallop vessels from the Scottish west coast. However, loss or restricted access as a result of the Awel y Môr and Mona Offshore Wind Projects 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.

6.10.2.4 It is not anticipated that this receptor will lose access to fishing grounds as a result of the West Anglesey Demonstration Zone tidal energy project.

6.10.2.5 The cumulative impact 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 receptor directly. The magnitude is therefore, considered to be **low**.

Sensitivity of the receptor

Scallop vessels – Scottish west coast

6.10.2.6 This receptor group has limited spatial tolerance due to significant dependence upon the commercial fisheries study area for queen scallop dredging. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear.

6.10.2.7 Scottish west coast 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**.

Significance of effect

6.10.2.8 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.35.

Table 6.35: MagnitudAye, sensitivity and cumulative impact significance relating to loss or restricted access to fishing grounds during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Low	Medium	Minor

Operations and maintenance phase

6.10.2.9 There is potential for cumulative loss or restricted access to fishing grounds for Scottish west coast scallopers, as a result of the Mona Offshore Wind Project operations and maintenance phase which will temporally overlap with the projects listed in Table 6.33.

Magnitude of impact

Scallop vessels – Scottish west coast

6.10.2.10 As described in paragraph 6.8.2.20, the Applicant has committed to a SMZ that covers areas of core scallop grounds located through the centre of the Mona Array Area, in a roughly north – south orientation (committed to within the Outline Fisheries Liaison and Co-existence Plan) (Document Reference: J10). It is assumed, therefore, that fishing by this receptor group will, continue within the SMZ and other areas of the Mona Array Area. Due to the limited spatial overlap in the south limits of the scallop fishery that is targeted by this receptor group, there is a negligible change in the impact when considered alongside Awel y Môr Offshore Wind Farm and therefore the overall effect is unchanged. This is not assessed to result in a cumulative effect that is greater than when the Mona Offshore Wind Project is assessed alone.

6.10.2.11 No other projects were identified as restricting access to scallop grounds within the cumulative commercial fisheries study area.

6.10.2.12 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. The magnitude of cumulative impact is, therefore, considered to be **low**.

Sensitivity of the receptor

6.10.2.13 The sensitivity of for Scottish west coast scallops remains the same as described for the construction phase of this impact for Tier 1 and is summarised in Table 6.36.

Significance of effect

6.10.2.14 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.36.

Table 6.36: Magnitude, sensitivity and cumulative impact significance relating to loss or restricted access to fishing grounds during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Low	Medium	Minor

Tier 2

Construction phase

6.10.2.15 There is potential for cumulative loss or restricted access to fishing grounds for Scottish west coast scallop vessels, as a result of the Mona Offshore Wind Project construction phase which will overlap with the projects listed in Table 6.33.

Magnitude of impact

Scallop vessels – Scottish west coast

6.10.2.16 It is anticipated that this receptor group will lose access to fishing grounds during the construction phases of the Morecambe and Morgan Offshore Wind Projects: Generation Assets and the combined Transmission Assets. This receptor group is less active within the Morecambe Array Area and the southern areas of the combined Transmission Assets, but very active within the northwest part of the Morgan Array Area. The MDS for this receptor group would be loss of access to key fishing grounds as a result of the construction areas of the Mona Offshore Wind Project, Morecambe and Morgan Offshore Wind Projects: Generation Assets and the one Morgan and Morecambe combined Transmission Assets, simultaneously the total area from the three array areas alone is approximately 747 km^2. However, it is likely that there will be rolling safety zones during the construction phases of these wind farms, which will minimise loss of area to this receptor group.

6.10.2.17 It is not anticipated that this receptor group 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 (starting as early as 2030 subject to the relevant consents being in place, Ørsted, 2023) starts after completion of the construction phase of Mona Offshore Wind Project, Morgan Offshore Wind Project Generation Assets, Morecambe Offshore Wind Project Generation Assets and Morgan and Morecambe Offshore Wind Farms Transmission Assets. There is,

therefore, no temporal overlap of constructions works. It is also noted that the Mooir Vannin Offshore Windfarm is to be located within Manx territorial waters (Ørsted, 2023). Under the IoM 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 IoM 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 IoM waters (29 of which are IoM registered vessels). Of these, 36 can also fish for queen scallops (25 of which are IoM 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.

6.10.2.18 Loss or restricted access as a result of the Mooir Vannin Offshore Windfarm, Morecambe, Morgan and Mona Offshore Wind Projects 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.

6.10.2.19 The cumulative impact 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 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**.

Sensitivity of the receptor

6.10.2.20 The sensitivity of Scottish west coast scallops remains the same as described for the construction phase of this impact for Tier 1 and is summarised in Table 6.37.

Significance of effect

6.10.2.21 A summary of the impact magnitude, sensitivity of receptors and overall effect significance is provided in Table 6.37.

Table 6.37: Magnitude, sensitivity and cumulative impact significance relating to loss or restricted access to fishing grounds during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Low	Medium	Minor

Operations and maintenance phase

6.10.2.22 There is potential for cumulative loss or restricted access to fishing grounds for Scottish west coast scallops, as a result of the Mona Offshore Wind Project operations and maintenance phase, which will overlap with the projects listed in Table 6.33.

Magnitude of impact

Scallop vessels – Scottish west coast

6.10.2.23 This receptor group has indicated that they may be able to continue fishing within the array areas of the Mona, Morecambe and Morgan Offshore Wind Project Generation Assets, but fishing activity could be restricted. The total area from the three array areas alone is approximately 747 km^2. 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 Mona and Morgan Offshore Wind Projects have committed to, within the Outline Fisheries and Co-existence Plan (Document Reference: J10), implementing SMZs over areas of core scallop grounds (as agreed with stakeholders via project-specific consultation).

6.10.2.24 The Mooir Vannin Offshore Windfarm is to be located within Manx Territorial Waters (Ørsted, 2023). Only vessels that possess a UK and IoM 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 IoM waters (29 of which are IoM registered vessels). Of these, 36 can also fish for queen scallops (25 of which are IoM 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 this receptor group 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.

6.10.2.25 The cumulative loss of area is, therefore, determined to affect an area from which a minor proportion (5-10%) of this commercial fisheries receptor's annual value of landings is caught.

6.10.2.26 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**.

Sensitivity of the receptor

6.10.2.27 The sensitivity of this receptor group remains the same as described for the construction phase of this impact for Tier 1 and is summarised in Table 6.38.

Significance of effect

6.10.2.28 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.38.

Table 6.38: Magnitude, sensitivity and cumulative impact significance relating to loss or restricted access to fishing grounds during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Low	Medium	Minor

Tier 3

Magnitude of impact

Scallop vessels – Scottish west coast

6.10.2.29 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 Mona CEA commercial fisheries 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 considered part of the commercial fisheries baseline and hence not considered within the CEA.

6.10.2.30 The objective of MPAs is to maintain the integrity of the sites and the identified features within them. In addition to protected sites, NRW and the North West Inshore Fisheries and Conservation Authority have implemented a range of Byelaws that limit fishing activity within the 6 nm boundary of Welsh and English waters (i.e. number of dredges deployed and size limit of vessels). Existing byelaws within the 6 nm boundary of Welsh and 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 Welsh and English waters.

6.10.2.31 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 Mona CEA commercial fisheries study area
- 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 Mona CEA commercial fisheries 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 Mona CEA commercial fisheries study area. Management options are to be considered no later than end of 2024. MPAs in stage three and overlap with the Mona CEA commercial fisheries 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
- Flyde 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 Mona CEA commercial fisheries study area.

6.10.2.32 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.

6.10.2.33 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 commercial fisheries 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.

6.10.2.34 Analysis of VMS data presented within Volume 6, Annex 6.1: Commercial fisheries technical report of the Environmental Statement 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 within the Mona Array Area and in areas to the west. 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).

6.10.2.35 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 any of the fisheries receptors is anticipated.

6.10.2.36 Based on the relatively low level of Scottish west coast scallop vessels activity within the boundaries of the four MPAs listed above, and the commitment by the Applicant to implement the measures outlined in Table 6.15, 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.

6.10.2.37 Given the concentrated area of activity within the Mona Array Area, the cumulative loss or restricted access to fishing grounds, across all phases, is therefore considered to affect an area from which a minor proportion (5-10%) of this commercial fisheries

receptor's annual value of landings is caught. The magnitude of cumulative impact is therefore, considered to be **low**.

Sensitivity of the receptor

6.10.2.38 The sensitivity of this receptor group remains the same as described for the construction phase of this impact for Tier 1 and is summarised in Table 6.39.

Significance of effect

6.10.2.39 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.39.

Table 6.39: Magnitude, sensitivity and cumulative impact significance relating to loss or restricted access to fishing grounds during all phases of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Low	Medium	Minor

6.10.3 Interference with fishing activity

6.10.3.1 For interference with fishing activity, the potential significant effect for the Mona Offshore Wind Project alone, across all phases, is assessed as negligible for all receptor groups other than the offshore static gear vessels. Therefore, only the offshore static gear 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.

Tier 1

Construction phase

6.10.3.2 There is potential for cumulative interference between fishing activity and project vessels for offshore static gear vessels, as a result of the Mona Offshore Wind Project construction phase which will overlap with the projects listed in Table 6.33.

Magnitude of impact

Offshore static gear vessels

6.10.3.3 The location of construction works for the Awel y Môr offshore wind farm will overlap with the offshore static gear vessels fishing grounds, however they typically target grounds that cover a large part of the commercial fisheries study area so the likelihood of any cumulative interference with fishing activity is low. The Awel y Môr project is expected to have a low magnitude of cumulative impact on these vessels.

6.10.3.4 It is not anticipated that there will be any cumulative interference with fishing activity as a result of the West Anglesey Demonstration Zone tidal energy project.

6.10.3.5 In light of the above, the cumulative impact is predicted to be of local spatial extent, short to medium term duration (i.e. less than five years), 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. The magnitude of cumulative impact is, therefore, considered to be **low**.

Sensitivity of the receptor

Offshore static gear vessels

6.10.3.6 This commercial fisheries receptor comprises larger offshore vessels (>12 m) that deploy static gear across the east Irish Sea. These vessels will only be affected by construction vessels within the Mona Array Area and the Mona Offshore Cable Corridor. The marker buoys deployed by the offshore static gear vessels are vulnerable to potential interference by construction vessels, due to their poor visibility. The offshore static gear vessels are deemed to be of medium vulnerability. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of effect

6.10.3.7 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.40.

Table 6.40: Magnitude, sensitivity and cumulative impact significance relating to interference with fishing activity during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Offshore static gear vessels	Low	Medium	Minor

Operations and maintenance phase

6.10.3.8 There is potential for cumulative interference with fishing activity for offshore static gear vessels, as a result of the Mona Offshore Wind Project operations and maintenance phase which will overlap with the projects listed in Table 6.33.

Magnitude of impact

Offshore static gear vessels

6.10.3.9 It is presumed that this receptor group will continue to fish within the Mona Array Area and that of the Awel y Môr Offshore Wind Farm. Therefore, cumulative interference with fishing activity could be experienced by this receptor group as a result of operations and maintenance vessels.

6.10.3.10 It is not anticipated that interference to fishing activity will arise cumulatively as a result of the West Anglesey Demonstration Zone tidal energy projects.

6.10.3.11 In light of the above, the cumulative impact is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility due to the temporary nature of the works. It is predicted that the impact will affect the receptor directly. The magnitude of cumulative impact is therefore, considered to be **low**.

Sensitivity of the receptor

6.10.3.12 The sensitivity of the receptor group remains the same as described for the construction phase of this impact for Tier 1, as summarised in Table 6.41.

Significance of effect

6.10.3.13 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.41.

Table 6.41: Magnitude, sensitivity and cumulative impact significance relating to interference with fishing activity during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Offshore static gear vessels	Low	Medium	Minor

Tier 2

Construction phase

6.10.3.14 There is potential for cumulative interference with fishing activity for offshore static gear vessels, as a result of the Mona Offshore Wind Project construction phase which will overlap with the projects listed in Table 6.33.

Magnitude of impact

Offshore static gear vessels

6.10.3.15 It is anticipated that this receptor group will experience cumulative interference with fishing activity during the construction phases of the Morecambe and Morgan Offshore Wind Projects: Generation Assets and the combined Transmission Assets. However, it is not anticipated that this receptor group will experience cumulative interference with fishing activity during the construction phase of the Mooir Vannin Offshore Windfarm, as the offshore construction phase of Mooir Vannin Offshore Windfarm (starting as early as 2030 subject to the relevant consents being in place, Ørsted, 2023) starts after completion of the construction phase of Mona Offshore Wind Project, Morgan Offshore Wind Project Generation Assets, Morecambe Offshore Wind Project Generation Assets and Morgan and Morecambe Offshore Wind Farms Transmission Assets. There is, therefore, no temporal overlap of constructions works. It is also noted that the Mooir Vannin Offshore Windfarm is to be located within Manx territorial waters (Ørsted, 2023).

6.10.3.16 The MDS for this receptor group would, therefore, be interference with fishing activity over a combined area from the Mona, Morecambe and Morgan Offshore Wind Projects at one time; total area from the three array areas alone is approximately 747 km^2, which equates to approximately <20% of the cumulative commercial fisheries study area. However, there will be rolling safety zones during the construction phases of the Mona, Morecambe and Morgan Offshore Wind Projects, which will minimise interference with fishing activity with this receptor group. There is potential for an increase in interference with fishing activity, however this receptor group has a high spatial adaptability and ability to fish numerous grounds.

6.10.3.17 In light of the above, the cumulative impact is predicted to be of local spatial extent, short to medium term duration (i.e. less than five years), intermittent, and with high reversibility due the temporary nature of the works. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.

Sensitivity of the receptor

6.10.3.18 The sensitivity of the receptor group remains the same as described for the construction phase of this impact for Tier 1 and summarised in in Table 6.42.

Significance of effect

6.10.3.19 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.42.

Table 6.42: Magnitude, sensitivity and cumulative impact significance relating to interference with fishing activity during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Offshore static gear vessels	Low	Medium	Minor

Operations and maintenance phase

6.10.3.20 There is potential for cumulative interference with fishing activity for offshore static gear vessels, as a result of the Mona Offshore Wind Project operations and maintenance phase, which will overlap with the projects listed in Table 6.33.

Magnitude of impact

Offshore static gear vessels

6.10.3.21 It is presumed that this receptor group will continue to fish within the Mona Array Area and that of the Mooir Vannin Offshore Windfarm, Morecambe and Morgan Offshore Wind Projects. Although operations and maintenance vessel traffic will add to the existing level of shipping activity in the area, there are already moderate levels of vessel traffic in the area, and there is co-existence of fishing vessels with other marine traffic. Interference with fishing as a result of the Mooir Vannin Offshore Windfarm, Morecambe, Morgan and Mona Offshore Wind Projects 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.

6.10.3.22 The cumulative impact is predicted to be of local to regional 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 receptor directly. The magnitude of cumulative impact is, therefore, considered to be **low**.

Sensitivity of the receptor

6.10.3.23 The sensitivity of the receptor groups remain the same as described for the construction phase of this impact for Tier 1 and is summarised in Table 6.43.

Significance of effect

6.10.3.24 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided Table 6.43.

Table 6.43: Magnitude, sensitivity and cumulative impact significance relating to interference with fishing activity during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Offshore static gear vessels	Low	Medium	Minor

6.10.4 Loss or damage of fishing gear due to snagging

6.10.4.1 For loss or damage of fishing gear due to snagging, the potential significant effect for the Mona Offshore Wind Project alone, across all phases, is assessed as negligible for all receptor groups other than the Scottish west coast scallop vessels. Therefore, only the Scottish west coast 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.

Tier 1

Construction phase

6.10.4.2 There is potential for cumulative loss or damage of fishing gear due to snagging for Scottish west coast scallop vessels, as a result of the Mona Offshore Wind Project construction phase which will overlap with the projects listed in Table 6.33.

Magnitude of impact

Scallop vessels – Scottish west coast

6.10.4.3 Given the proposed measures adopted as part of the Mona Offshore Wind Project and the commitments to follow standard protocols, in addition to assuming that standard protocols would be complied with by all other projects, the cumulative impacts would remain as assessed for the Mona Offshore Wind Project alone. The magnitude of cumulative impact is, therefore, as summarised in Table 6.44.

Sensitivity of the receptor

Scallop vessels – Scottish west coast

6.10.4.4 The sensitivity for Scottish west coast scallop vessels remains the same as described for the construction phase of this impact in section 6.8.6 and as summarised in Table 6.44.

Significance of effect

6.10.4.5 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.44.

Table 6.44: Magnitude, sensitivity and cumulative impact significance relating to loss or damage of fishing gear due to snagging during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effecr
Scottish west coast scallop vessels	Negligible	High	Minor

Operations and maintenance phase

6.10.4.6 There is potential for cumulative loss or damage of fishing gear due to snagging for Scottish west coast scallop vessels, as a result of the Mona Offshore Wind Project operations and maintenance phase which will overlap with the projects listed in Table 6.33.

Magnitude of impact

6.10.4.7 Given the proposed measures adopted as part of the Mona Offshore Wind Project 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 Mona Offshore Wind Project alone. The magnitude of cumulative impact is, therefore, as summarised in Table 6.45.

Sensitivity of receptor

6.10.4.8 The sensitivity for Scottish west coast scallop vessels remains the same as described for the construction phase of this cumulative impact, as summarised in Table 6.45.

Significance of effect

6.10.4.9 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.45.

Table 6.45: Magnitude, sensitivity and cumulative impact significance relating to loss or damage of fishing gear due to snagging during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Negligible	High	Minor

Tier 2

Construction phase

6.10.4.10 There is potential for cumulative loss or damage of fishing gear due to snagging for Scottish west coast scallop vessels, as a result of the Mona Offshore Wind Project construction phase which will overlap with the projects listed in Table 6.33.

Magnitude of impact

6.10.4.11 Given the proposed measures adopted as part of the Mona Offshore Wind Project 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 Mona Offshore Wind Project alone. The magnitude of cumulative impact is, therefore, as summarised in Table 6.46.

Sensitivity of receptor

6.10.4.12 The sensitivity for Scottish west coast scallop vessels remains the same as described for the construction phase of this cumulative impact, as summarised in Table 6.46.

Significance of effect

6.10.4.13 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.46.

Table 6.46: Magnitude, sensitivity and cumulative impact significance relating to loss or damage of fishing gear due to snagging during construction of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Negligible	High	Minor

Operations and maintenance phase

6.10.4.14 There is potential for cumulative loss or damage of fishing gear due to snagging for Scottish west coast scallop vessels, as a result of the Mona Offshore Wind Project operations and maintenance phase, which will overlap with the projects listed in Table 6.33.

Magnitude of impact

6.10.4.15 Given the proposed measures adopted as part of the Mona Offshore Wind Project 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 Mona Offshore Wind Project alone. The magnitude of cumulative impact is, therefore, as summarised in in Table 6.47.

Sensitivity of receptor

6.10.4.16 The sensitivity Scottish west coast scallop vessels remains the same as described for the construction phase of this cumulative impact, as summarised in Table 6.47.

Significance of effect

6.10.4.17 A summary of the impact magnitude, sensitivity of receptor and overall effect significance is provided in Table 6.47.

Table 6.47: Magnitude, sensitivity and cumulative impact significance relating to loss or damage of fishing gear due to snagging during the operations and maintenance phase of the Mona Offshore Wind Project.

Receptor Group	Magnitude	Sensitivity	Effect
Scottish west coast scallop vessels	Negligible	High	Minor

6.10.5 Potential impacts on commercially important fish and shellfish resources

6.10.5.1 The following potential cumulative impacts on fish and shellfish ecology via the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Project have been identified which are relevant to commercial fish species:

- Temporary habitat loss/disturbance
- Underwater noise creating injury and/or disturbance
- Increased SSCs and associated sediment deposition
- Long-term habitat loss
- Colonisation of hard structures
- EMFs from subsea electrical cabling
- Disturbance/remobilisation of sediment-bound contaminants.

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

6.10.5.3 The fish and shellfish ecology cumulative assessment concluded that for all impacts during the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Project, 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.

6.10.6 Future monitoring

6.10.6.1 Table 6.48 below outlines the monitoring commitments for commercial fisheries.

Table 6.48: Monitoring commitments.

Environmental effect	Monitoring commitment	Means of implementation
Potential snagging risk of inter-array interconnector and/or subtidal export cables.	Preparation of an Offshore CMS post-consent with details of cable monitoring to reduce loss or damage to fishing gear due to snagging.	The offshore CMS is secured under schedule 14 of the deemed Marine Licence within the Draft DCO and is expected to be secured within the standalone NRW marine licence.

6.11 Transboundary effects

6.11.1.1 A screening of transboundary impacts has been carried out and any potential for significant transboundary effects with regard to commercial fisheries from the Mona Offshore Wind Project upon the interests of other states has been assessed as part of

this Environmental Statement. The potential transboundary impacts assessed within Volume 5, Annex 5.2: Transboundary impacts screening of the Environmental Statement, are summarised below. Potential impacts on both UK and foreign commercial fishing fleets have been considered as part of this impact assessment (section 6.8); it was predicted that there will be no significant effects on Irish and Belgian vessels which operate within the commercial fisheries study area. Transboundary impacts outside UK waters are as follows:

- Potential effects on commercially important fish and shellfish resources will be restricted to the Mona Array Area and immediate surrounding areas, with the exception of underwater noise and the impacts of increased SSCs and associated sediment deposition. Effects of underwater noise on fish and shellfish receptors, and therefore commercial fisheries receptors, are not predicted to extend beyond UK and IoM waters. The identified tidal excursion of 20 km means that any increased SSC is likely to settle out before crossing any international boundaries, suggesting this impact is unlikely to have any significant transboundary effect on fish and shellfish stocks and therefore commercial fisheries receptors. Therefore, 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 6.8); it was predicted that there will be no significant effects on Irish and Belgian vessels which operate within the commercial fisheries study area. Transboundary effects on commercial fishing fleets from Belgium and Ireland, in terms of displacement from the Mona Array Area and Offshore Cable Corridor into alternative grounds, are unlikely, given that activity by these fleets have been observed at relatively low levels across the Mona Offshore Wind Project. Therefore, the potential transboundary impact of effects on displacement of non-UK commercial fishing vessels is concluded to be not significant in EIA terms.

6.12 Inter-related effects

6.12.1.1 Inter-relationships are considered to be the impacts and associated effects of different aspects of the proposal on the same receptor. These are considered to be:

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Mona Offshore Wind Project (construction, operations and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor, than if just assessed in isolation in these three phases (e.g. subsea noise effects from piling, operational wind turbines, vessels and decommissioning)
- Receptor led effects: Assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor. As an example, all effects on commercial fisheries, such as direct habitat loss or disturbance, sediment plumes, scour, jack-up vessel use etc., may interact to produce a different, or greater effects on this receptor than when the effects are considered in isolation. Receptor-led effects may be short term, temporary or transient effects, or incorporate longer term effects.

6.12.1.2 A description of the likely interactive effects arising from the Mona Offshore Wind Project on commercial fisheries is provided in Volume 2, Chapter 11: Inter-related effects of the Environmental Statement.

Project lifetime effects

6.12.1.3 It is not anticipated that effects on commercial fishing vessels across all phases of the Mona Offshore Wind Project will interact in such a way to result in combined effects of greater significance than the assessment of each individual phase.

Receptor-led effects

6.12.1.4 Spatial and temporal interactions between different impacts have the potential to exist:

- Inter-related effects may arise from a combination of supply chain benefits for local fishing vessels and reduction in loss or restricted access to fishing grounds; this is because fishing vessels are likely to be providing marine operational support during periods of construction or major maintenance works which would have resulted in a loss or restricted access to fishing grounds if the vessel had not been providing support to the Mona Offshore Wind Project. This means that the benefit to the local fishing vessels as a result of the supply chain opportunities is acting more as an alleviation of potential losses than an additional benefit. It is therefore predicted that any potential inter-related effect will reduce the beneficial significance of supply chain opportunities, which would result in a negligible beneficial significance
- There is potential for an inter-related effect from the combination of the loss or restricted access to fishing grounds and the consequent displacement of fishing activity into other areas. This could result in increased gear conflict and pressure on other fishing grounds. During construction, static gear vessels may be required to relocate pots from areas of activity, which could increase intensity of activity in other areas or cause conflict with mobile gear species (e.g. scallop vessels). However, with successful implementation of the measures outlined in section 6.7 and 6.8, and the temporary nature of the works, it is not predicted that there will be any inter-related effect of greater significance than those already assessed in isolation. During the operations and maintenance phase of the Mona Offshore Wind Project, there will be no complete exclusions to mobile or static vessels, however some mobile gear vessels may not fish within the Mona Array Area due to risks associated with the minimum spacing of wind turbines; this could result in conflict with static gear vessels or other mobile gear vessels and increase pressure on other fishing grounds. With consideration of the measures outlined in section 6.7 and 6.8, it is anticipated that the appropriately mitigated loss of access will reduce displacement and, therefore, any inter-related effect will not be of greater significance than those assessed in isolation (negligible to minor adverse significance)
- Impacts on commercially important fish and shellfish species from direct habitat loss or disturbance, sediment plumes etc are assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement
- Increased collision and allision risk to commercial fishing vessels has been considered in Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement.

6.13 Summary of impacts, mitigation measures and monitoring

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

- Table 6.49 presents a summary of the potential impacts, measures adopted as part of the Mona Offshore Wind Project and residual effects in respect to commercial fisheries. The impacts assessed include, loss or restricted access to fishing grounds, displacement of fishing activity, interference with fishing activity, temporary increase in steaming distances, loss of damage to fishing gear due to snagging, potential impacts on commercially important fish stocks, and supply chain opportunities for local fishing vessels. Overall, it is concluded that there will be no significant effects arising from the Mona Offshore Wind Project during the construction, operations and maintenance or decommissioning phases in relation to commercial fisheries following the implementation of embedded and further mitigation measures
- Table 6.50 presents a summary of the potential cumulative impacts, mitigation measures and residual effects. The cumulative impacts assessed include, loss or restricted access to fishing grounds, interference with fishing activity, loss of damage to fishing gear due to snagging, and potential impacts on commercially important fish stocks. Overall, it is concluded that there will be no significant cumulative effects on commercial fisheries from the Mona Offshore Wind Project alongside other projects/plans following the implementation of embedded and further mitigation measures
- The following potential transboundary impacts have been identified in regard to effects of the Mona Offshore Wind Project:
  - Potential effects on commercially important fish and shellfish resources
  - Displacement of fishing vessels.

Table 6.49: Summary of potential environmental effects, mitigation and monitoring.

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

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
Loss or restricted access to fishing grounds	✓	✓	✓	Development and adherence to an offshore CMS which includes a CSIP where 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). Development and adherence to an offshore CMS which includes a CSIP where the time delay between sequential cable installation operations (e.g. cable-lay and post-lay burial), shall be minimised to as short as reasonably practicable. Infrastructure spacing at a minimum of 1,400 m apart Development and adherence to a DP with roughly north to south alignment of wind turbine rows Development and adherence to a DP which includes implementation of a SMZ over an area of core scallop grounds within the Mona Array Area. Development and adherence to an OEMP which includes details of the appointment and	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: Low O: Low D: Low Scallop vessels – IoM C: Low O: Negligible D: Low	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 Scallop vessels – IoM C: Low O: Low D: Low	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 O: Minor D: Minor Scallop vessels – IoM C: Negligible O: Negligible D: Negligible	None	None	None

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				responsibilities of a fisheries liaison officer Ongoing liaison with the fishing industry through the CFLO and FIR, and adhere to good practice guidance with regards to fisheries liaison. To investigate establishing a commercial fisheries working group. Notification to fishing fleets of construction, maintenance and decommissioning activities. Use of OFLOs where required and appropriate. Timely and efficient distribution NtMs. Use of advisory clearance distances and safety zones during construction and periods of major maintenance. Use of rolling advisory exclusion zones. Development and adherence to an Aids to Navigation Management Plan to ensure adequate navigational markers (including lighting), in accordance with the most recent relevant industry guidance. Development and adherence to a CMS including CSIP and details of scour protection management and cable	Other scallop vessels C: Negligible O: Low D: Negligible	Other scallop vessels C: Negligible O: Negligible D: Negligible	Other scallop vessels C: Negligible O: Negligible D: Negligible			

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				protection management , to outline cable burial depth, cable protection and monitoring of cables. Annual reviews for the first five years of the operations and maintenance phase, to review VMS data and landings data to identify whether there are any changes to fishing activity within the Mona Array Area. 'As-laid' co-ordinates of the cable route shall be recorded and submitted to the UKHO and KIS-ORCA Service. 'As-laid' cables shall be marked on Admiralty Charts and fisherman's awareness charts (paper and electronic format). Development and adherence to a dropped objects plan. Development and adherence to a decommissioning programme. Development and adherence to an OEMP. Use of guard vessels where required.						
Displacement of fishing activity into other areas	✓	✓	✓	Development and adherence to an offshore CMS which includes a CSIP where cable protection shall be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower	Inshore static gear vessels C: Negligible O: Negligible D: Negligible	Inshore static gear vessels C: Medium O: Medium D: Medium	Inshore static gear vessels C: Negligible O: Negligible D: Negligible	None	None	None

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
				profiles, grade used for rock placement, type of rock (e.g. smoother edges). Development and adherence to an offshore CMS which includes a CSIP where the time delay between sequential cable installation operations (e.g. cable-lay and post-lay burial), shall be minimised to as short as reasonably practicable. Infrastructure spacing at a minimum of 1,400 m apart Development and adherence to a DP with roughly north to south alignment of wind turbine rows Development and adherence to a DP which includes implementation of a SMZ over an area of core scallop grounds within the Mona Array Area. Development and adherence to an OEMP which includes details of the appointment and responsibilities of a fisheries liaison officer Ongoing liaison with the fishing industry through the CFLO and FIR, and adhere to good practice guidance with regards to fisheries liaison. To investigate establishing a commercial fisheries working group.	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 – IoM C: Negligible O: Negligible D: Negligible Other scallop vessels C: Negligible O: Negligible D: Negligible	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 – IoM C: Low O: Low D: Low Other scallop 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: Negligible O: Negligible D: Negligible Scallop vessels – IoM C: Negligible O: Negligible D: Negligible Other scallop vessels C: Negligible O: Negligible D: Negligible			

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
				Notification to fishing fleets of construction, maintenance and decommissioning activities. Use of OFLOs where required and appropriate. Timely and efficient distribution NtMs. Use of advisory clearance distances and safety zones during construction and periods of major maintenance. Use of rolling advisory exclusion zones. Development and adherence to an Aids to Navigation Management Plan to ensure adequate navigational markers (including lighting), in accordance with the most recent relevant industry guidance. Development and adherence to a CMS including CSIP and details of scour protection management and cable protection management , to outline cable burial depth, cable protection and monitoring of cables. Annual reviews for the first five years of the operations and maintenance phase, to review VMS data and landings data to identify whether there are any changes to fishing activity within the Mona Array Area.						

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				'As-laid' co-ordinates of the cable route shall be recorded and submitted to the UKHO and KIS-ORCA Service. 'As-laid' cables shall be marked on Admiralty Charts and fisherman's awareness charts (paper and electronic format). Development and adherence to a dropped objects plan. Development and adherence to a decommissioning programme. Development and adherence to an OEMP. Use of guard vessels where required.						
Interference with fishing activity	✓	✓	✓	Development and adherence to an offshore CMS which includes a CSIP where 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). Development and adherence to an offshore CMS which includes a CSIP where the time delay between sequential cable installation operations (e.g. cable-lay and post-lay burial), shall be minimised to as short as reasonably practicable.	Inshore static gear vessels C: Low O: Negligible D: Low Offshore static gear vessels C: Low O: Low D: Low Beam trawl vessels C: Low O: Low D: Low	Inshore static gear vessels C: Medium O: Medium D: Medium Offshore static gear vessels C: Medium O: Medium D: Medium Beam trawl vessels C: Negligible O: Negligible D: Negligible	Inshore static gear vessels C: Minor O: Negligible D: Minor Offshore static gear vessels C: Minor O: Minor D: Minor Beam trawl vessels C: Negligible O: Negligible D: Negligible	None	None	None

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
				Infrastructure spacing at a minimum of 1,400 m apart Development and adherence to a DP with roughly north to south alignment of wind turbine rows Development and adherence to a DP which includes implementation of a SMZ over an area of core scallop grounds within the Mona Array Area. Development and adherence to an OEMP which includes details of the appointment and responsibilities of a fisheries liaison officer Ongoing liaison with the fishing industry through the CFLO and FIR, and adhere to good practice guidance with regards to fisheries liaison. To investigate establishing a commercial fisheries working group. Notification to fishing fleets of construction, maintenance and decommissioning activities. Use of OFLOs where required and appropriate. Timely and efficient distribution NtMs. Use of advisory clearance distances and safety zones during construction and periods of major maintenance.	Scallop vessels – Scottish west coast C: Low O: Low D: Low Scallop vessels – IoM C: Low O: Low D: Low Other scallop vessels C: Low O: Low D: Low	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – IoM C: Negligible O: Negligible D: Negligible Other scallop vessels C: Negligible O: Negligible D: Negligible	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – IoM C: Negligible O: Negligible D: Negligible Other scallop vessels C: Negligible O: Negligible D: Negligible			

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				Use of rolling advisory exclusion zones. Development and adherence to an Aids to Navigation Management Plan to ensure adequate navigational markers (including lighting), in accordance with the most recent relevant industry guidance. Development and adherence to a CMS including CSIP and details of scour protection management and cable protection management, to outline cable burial depth, cable protection and monitoring of cables. Annual reviews for the first five years of the operations and maintenance phase, to review VMS data and landings data to identify whether there are any changes to fishing activity within the Mona Array Area. 'As-laid' co-ordinates of the cable route shall be recorded and submitted to the UKHO and KIS-ORCA Service. 'As-laid' cables shall be marked on Admiralty Charts and fisherman's awareness charts (paper and electronic format). Development and adherence to a dropped objects plan. Development and adherence to a decommissioning programme.						

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				Development and adherence to an OEMP. Use of guard vessels where required.						
Temporary increase in steaming distances	✓	×	✓	Development and adherence to an offshore CMS which includes a CSIP where 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). Development and adherence to an offshore CMS which includes a CSIP where the time delay between sequential cable installation operations (e.g. cable-lay and post-lay burial), shall be minimised to as short as reasonably practicable. Infrastructure spacing at a minimum of 1,400 m apart Development and adherence to a DP with roughly north to south alignment of wind turbine rows Development and adherence to a DP which includes implementation of a SMZ over an area of core scallop grounds within the Mona Array Area. Development and adherence to an OEMP which includes details	Inshore static gear vessels C: No change D: No change Offshore static gear vessels C: Negligible D: Negligible Beam trawl vessels C: Negligible D: Negligible Scallop vessels – Scottish west coast C: Negligible D: Negligible Scallop vessels – IoM C: Negligible D: Negligible Other scallop vessels C: Negligible D: Negligible	Inshore static gear vessels C: No change D: No change Offshore static gear vessels C: Low D: Low Beam trawl vessels C: Low D: Low Scallop vessels – Scottish west coast C: Low D: Low Scallop vessels – IoM C: Low D: Low Other scallop vessels C: Low D: Low	Inshore static gear vessels C: No change D: No change Offshore static gear vessels C: Negligible D: Negligible Beam trawl vessels C: Negligible D: Negligible Scallop vessels – Scottish west coast C: Negligible D: Negligible Scallop vessels – IoM C: Negligible D: Negligible Other scallop vessels C: Negligible D: Negligible	None	None	None

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				of the appointment and responsibilities of a fisheries liaison officer Ongoing liaison with the fishing industry through the CFLO and FIR, and adhere to good practice guidance with regards to fisheries liaison. To investigate establishing a commercial fisheries working group. Notification to fishing fleets of construction, maintenance and decommissioning activities. Use of OFLOs where required and appropriate. Timely and efficient distribution NtMs. Use of advisory clearance distances and safety zones during construction and periods of major maintenance. Use of rolling advisory exclusion zones. Development and adherence to an Aids to Navigation Management Plan to ensure adequate navigational markers (including lighting), in accordance with the most recent relevant industry guidance. Development and adherence to a CMS including CSIP and details of scour protection						

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				management and cable protection management , to outline cable burial depth, cable protection and monitoring of cables. Annual reviews for the first five years of the operations and maintenance phase, to review VMS data and landings data to identify whether there are any changes to fishing activity within the Mona Array Area. 'As-laid' co-ordinates of the cable route shall be recorded and submitted to the UKHO and KIS-ORCA Service. 'As-laid' cables shall be marked on Admiralty Charts and fisherman's awareness charts (paper and electronic format). Development and adherence to a dropped objects plan. Development and adherence to a decommissioning programme. Development and adherence to an OEMP. Use of guard vessels where required.						
Loss or damage to fishing gear due to snagging	✓	✓	✓	Development and adherence to an offshore CMS which includes a CSIP where cable protection shall be designed to minimise snagging hazards as far as possible, for example by minimising height above	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	None	Preparation of an Offshore CMS post-consent with details of cable monitoring to reduce loss or damage to fishing

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
				seabed, smooth and shallower profiles, grade used for rock placement, type of rock (e.g. smoother edges). Development and adherence to an offshore CMS which includes a CSIP where the time delay between sequential cable installation operations (e.g. cable-lay and post-lay burial), shall be minimised to as short as reasonably practicable. Infrastructure spacing at a minimum of 1,400 m apart Development and adherence to a DP with roughly north to south alignment of wind turbine rows Development and adherence to a DP which includes implementation of a SMZ over an area of core scallop grounds within the Mona Array Area. Development and adherence to an OEMP which includes details of the appointment and responsibilities of a fisheries liaison officer Ongoing liaison with the fishing industry through the CFLO and FIR, and adhere to good practice guidance with regards to fisheries liaison. To investigate establishing a commercial fisheries working group.	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 – IoM C: Negligible O: Negligible D: Negligible Other scallop vessels C: Negligible O: Negligible D: Negligible	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 – IoM C: Medium O: Medium D: Medium Other scallop vessels C: Medium O: Medium D: Medium	Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Minor O: Minor D: Minor Scallop vessels – Scottish west coast C: Minor O: Minor D: Minor Scallop vessels – IoM C: Negligible O: Negligible D: Negligible Other scallop vessels C: Negligible O: Negligible D: Negligible			gear due to snagging

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				Notification to fishing fleets of construction, maintenance and decommissioning activities. Use of OFLOs where required and appropriate. Timely and efficient distribution NtMs. Use of advisory clearance distances and safety zones during construction and periods of major maintenance. Use of rolling advisory exclusion zones. Development and adherence to an Aids to Navigation Management Plan to ensure adequate navigational markers (including lighting), in accordance with the most recent relevant industry guidance. Development and adherence to a CMS including CSIP and details of scour protection management and cable protection management , to outline cable burial depth, cable protection and monitoring of cables. Annual reviews for the first five years of the operations and maintenance phase, to review VMS data and landings data to identify whether there are any changes to fishing activity within the Mona Array Area.						

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				'As-laid' co-ordinates of the cable route shall be recorded and submitted to the UKHO and KIS-ORCA Service. 'As-laid' cables shall be marked on Admiralty Charts and fisherman's awareness charts (paper and electronic format). Development and adherence to a dropped objects plan. Development and adherence to a decommissioning programme. Development and adherence to an OEMP. Use of guard vessels where required.						
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.	Negligible – Low	Low – Medium	Negligible – Minor	None	Negligible – Minor	None proposed
Supply chain opportunities for local fishing vessels	✓	✓	✓	Supply chain opportunities	Inshore static gear vessels C: Negligible O: Negligible D: Negligible Offshore static gear vessels C: Low O: Negligible D: Low	Inshore static gear vessels C: Negligible O: Negligible D: Negligible Offshore static gear vessels C: Medium O: Medium D: Medium	Inshore static gear vessels C: Negligible O: Negligible D: Negligible Offshore static gear vessels C: Minor O: Minor D: Minor	None	None	None

Description of impact	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
					Beam trawl vessels C: Low O: Negligible D: Low Scallop vessels – Scottish west coast C: Low O: Negligible D: Low Scallop vessels – IoM C: Low O: Negligible D: Low Other scallop vessels C: Low O: Negligible D: Low	Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Low O: Low D: Low Scallop vessels – IoM C: Medium O: Medium D: Medium Other scallop vessels C: Low O: Low D: Low	Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Minor O: Negligible D: Minor Scallop vessels – IoM C: Minor O: Minor D: Minor Other scallop vessels C: Minor O: Negligible D: Minor			
Potential impacts on commercial fisheries as a result of increased risk of introduction and spread of INNS	✓	✓	✓	Development of, and adherence to, an OEMP, including actions to minimise INNS.	Low	Negligible – High	Negligible – Minor	None	None	None

Table 6.50: Summary of potential cumulative environmental effects, mitigation and monitoring.

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

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
Tier 1										
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in Table 6.49.	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 O: Minor D: Minor	None	None	None
Interference with fishing activity	✓	✓	✓	Same as described for the same impact in Table 6.49.	Offshore static gear vessels C: Low O: Low D: Low D: Low	Offshore static gear vessels C: Medium O: Medium D: Medium	Offshore static gear vessels C: Minor O: Minor D: Minor	None	None	None
Loss or damage to fishing gear due to snagging	✓	✓	✓	Same as described for the same impact in Table 6.49.	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 O: Minor D: Minor	None	None	Preparation of an Offshore CMS post-consent with details of cable monitoring to reduce loss or damage to fishing gear due to snagging
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.	Low – Medium	Negligible – Medium	Negligible – minor adverse	None	Negligible – Minor	None proposed

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
Tier 2										
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in Table 6.49.	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 O: Minor D: Minor	None	None	None
Interference with fishing activity	✓	✓	✓	Same as described for the same impact in Table 6.49.	Offshore static gear vessels C: Low O: Low D: Low	Offshore static gear vessels C: Medium O: Medium D: Medium	Offshore static gear vessels C: Minor O: Minor D: Minor	None	None	None
Loss or damage to fishing gear due to snagging	✓	✓	✓	Same as described for the same impact in Table 6.49.	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 O: Minor D: Minor	None	None	Preparation of an Offshore CMS post-consent with details of cable monitoring to reduce loss or damage to fishing gear due to snagging
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement.	Low – Medium	Negligible – Medium	Negligible – minor adverse	None	Negligible – Minor	None proposed
Tier 3										
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in Table 6.49.	Low	Medium	Minor	Loss or restricted access to fishing grounds	✓	✓

6.14 References

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