Partners in UK offshore wind

MONA OFFSHORE WIND PROJECT

Preliminary Environmental Information Report

Volume 2, chapter 14: Other sea users

Image of an offshore wind farm

April 2023
Final

Document status

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RPS	**Mona Offshore Wind Ltd.**

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Glossary

Term	Meaning
Marine aggregate	Marine dredged sand and/or gravel.
Marine aggregate extraction	The process of removing naturally occurring sand and gravels.
Notice to Mariners	Issued from a number of different sources, such as the UK Hydrographic Office, Trinity House or Local Harbour Authorities. Contain important navigational information such as chart updates, changes in buoyage, prior warning of activities such as dredging, exclusion zones, harbour closures and byelaws etc.
Seismic survey	The technique involves releasing pulses of acoustic energy along designated lines, the energy penetrates the sub-surface rocks and is reflected back to the surface where it can be detected by acoustic transducers and relayed to a recording vessel.
Tidal excursion	The net horizontal distance travelled by a water particle from Mean Low Water Springs (MLWS) to Mean High Water Springs (MHWS) or vice versa.

Acronyms

Acronym	Description
AfL	Agreement for Lease
AIS	Automatic Identification System
BEIS	Department for Business, Energy and Industrial Strategy
CEA	Cumulative Effects Assessment
CTV	Crew Transfer Vessel
DCO	Development Consent Order
dML	Deemed Marine Licence
EIA	Environmental Impact Assessment
ES	Environmental Statement
HDD	Horizontal Directional Drilling
ICPC	International Cable Protection Committee
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
NRA	Navigational Risk Assessment
NSTA	North Sea Transition Authority
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
OSI	Offshore Storage Installation
OSP	Offshore Substation Platform
OTNR	Offshore Transmission Network Review
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
REWS	Radar Early Warning Systems
RYA	Royal Yachting Association
SOV	Service Operation Vessel
SSC	Suspended Sediment Concentration
TCE	The Crown Estate
UKCS	United Kingdom Continental Shelf
UKHO	United Kingdom Hydrographic Office
WNMP	Welsh National Marine Plan
WSAC	World Shore Angling Championships

Units

Unit	Description
%	Percentage
m	Metres
m^2	Metres squared
m^3	Metres cubed
m/h	Metres per hour
MW	Megawatt
nm	Nautical mile
km	Kilometres
km^2	Kilometres squared

14 Other sea users

14.1 Introduction

14.1.1 Overview

14.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the assessment of the potential impact of the Mona Offshore Wind Project on other sea users. Specifically, this chapter considered 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.

14.1.2 Purpose of chapter

14.1.2.1 The primary purpose of the PEIR is outlined in volume 1, chapter 1: Introduction of the PEIR. In summary, the primary purpose of an 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). The PEIR constitutes the Preliminary Environmental Information (PEI) for the Mona Offshore Wind Project and sets out the findings of the Environmental Impact Assessment (EIA) to date to support the pre-application consultation activities required under the 2008 Act. The EIA will be finalised following completion of pre-application consultation and the Environmental Statement will accompany the application to the Secretary of State for Development Consent.

14.1.2.2 The PEIR forms the basis for statutory consultation which will last for 47 days and conclude on 4 June 2023, as outlined in volume 1, chapter 2: Policy and legislation of the PEIR. At this point, comments received on the PEIR will be reviewed and incorporated (where appropriate) into the Environmental Statement, which will be submitted in support of the application for Development Consent scheduled for quarter one of 2024.

14.1.2.3 In particular, this PEIR chapter:

- Presents the existing environmental baseline established from desk studies and consultation
- Identifies any assumptions and limitations encountered in compiling the environmental information
- Presents the potential environmental effects on other sea users arising from the Mona Offshore Wind Project, based on the information gathered and the analysis and assessments undertaken
- 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 other sea users.

14.1.3 Study area

14.1.3.1 The other sea users study area varies in scale depending on the receptor. Two study areas have been defined for the assessment of different groupings of other sea user receptors. These are the regional other sea users study area, and the local other sea users study area, as shown in Figure 14.1.

14.1.3.2 The regional other sea users study area is based on one tidal excursion of the Mona Array Area and the Mona Offshore Cable Corridor and represents the area with potential increases in suspended sediments arising from activities associated with the Mona Offshore Wind Project. This study area is relevant to those receptors which are susceptible to increases in Suspended Sediment Concentrations (SSCs):

- Aggregate extraction and disposal sites
- Recreational activities such as scuba diving and bathing.

14.1.3.3 The local other sea users study area is defined as a 1km buffer around the Mona Array Area and Mona Offshore Cable Corridor. The 1km buffer has been included as oil and gas infrastructure, cables and pipelines and offshore wind farm structures undergoing maintenance will require a 500m safety zone, or advisory clearance distance. This area includes the extent of potential direct physical overlap between activities associated with the Mona Offshore Wind Project and the following receptors:

- Recreational activities including, sailing and motor cruising, and recreational fishing
- Offshore energy projects (including other offshore wind farms, oil and gas activities and carbon capture and storage)
- Cable and pipeline operators
- Offshore microwave fixed communication links.

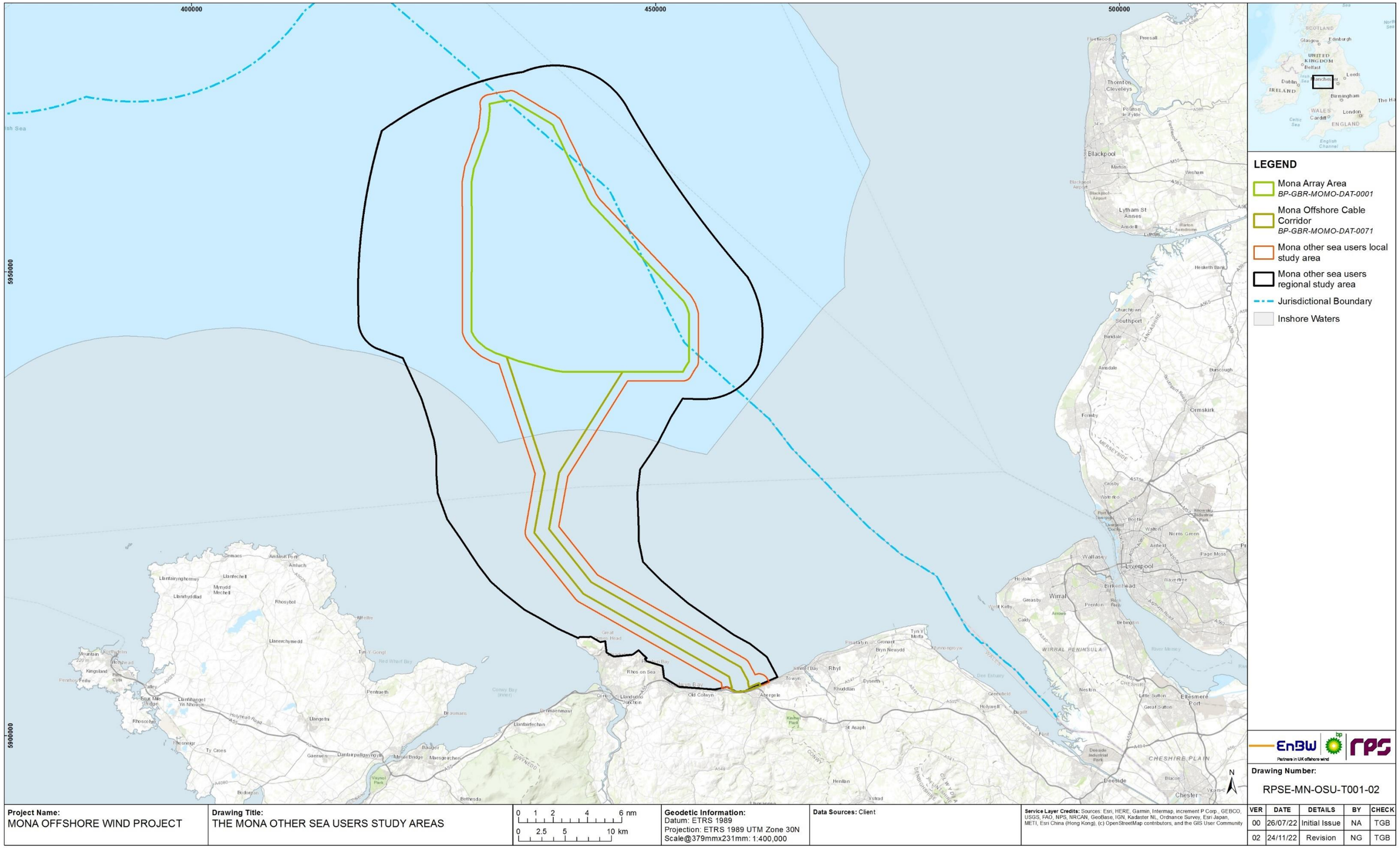


Figure 14.1: The other sea users study areas.

14.2 Policy context

14.2.1.1 The policy context for the Mona Offshore Wind Project is set out in volume 1, chapter 2: Policy and legislation of the PEIR. Specific policy relevant to other sea users, is laid out below.

14.2.1 National Policy Statements

14.2.1.1 Planning policy on renewable energy infrastructure is presented in volume 1, chapter 2: Policy and legislation of the PEIR. Planning policy on offshore renewable energy Nationally Significant Infrastructure Projects (NSIPs), specifically in relation to other sea users, is contained in the Overarching National Policy Statement (NPS) for Energy (EN-1; DECC, 2011a) and the NPS for Renewable Energy Infrastructure (EN-3, DECC, 2011b). Draft versions of NPS EN-1 (BEIS, 2021a) and NPS EN-3 (BEIS, 2021b) are currently being consulted on.

14.2.1.2 NPS EN-1 and NPS EN-3 include guidance on what matters are to be considered in the assessment. This is presented in Table 14.1 below. NPS EN-1 and NPS EN-3 also highlight a number of factors relating to the determination of an application and in relation to mitigation. These are presented in Table 14.2 below.

14.2.1.3 Table 14.1 and Table 14.2 refer to the current NPSs, specifically NPS EN-1 (DECC, 2011a) and NPS EN-3 (DECC, 2011b). If the NPSs are updated prior to the application for Development Consent, the revised NPSs will be fully considered in relation to other sea users within the Environmental Statement.

Table 14.1: Summary of the NPS EN-1 and NPS EN-3 provisions relevant to other sea users.

NPS EN-1 and EN-3 guidance	How and where considered in the PEIR
NPS EN-3	
There may be constraints imposed on the siting or design of offshore wind farms because of restrictions resulting from the presence of other offshore infrastructure or activities. (EN-3, paragraph 2.6.35)	An assessment of other offshore infrastructure and activities is presented in section 14.5. Consultation with potentially affected stakeholders has been carried out from the early stages of the Mona Offshore Wind Project and continues through the pre-application consultation process. Details of this are presented in Table 14.5.
Where a potential offshore wind farm is proposed close to existing operational offshore infrastructure or has the potential to affect activities for which a licence has been issued by Government, the applicant should undertake an assessment of the potential effect of the proposed development on such existing or permitted infrastructure or activities. The assessment should be undertaken for all stages of the lifespan of the proposed wind farm in accordance with the appropriate policy for offshore wind farm EIAs. (EN-3, paragraph 2.6.179)	The Mona Offshore Wind Project assessment has considered each of these potential effects and in section 14.8 has provided an assessment of their likely significance, considering each phase of the development process (i.e. construction, operations and maintenance, and decommissioning). Consideration of the North West Marine Plans is contained in section 14.2.2.
Applicants should establish stakeholder engagement with interested parties in the offshore sector early in the development phase of the proposed offshore wind farm, with an aim to resolve as many issues as possible prior to the submission of an application to the IPC. Such stakeholder engagement should continue throughout the life of the development including construction, operation and decommissioning phases where necessary. As many of these offshore industries are regulated by Government, the relevant Secretary of State should also be a consultee where necessary. Such engagement should be taken to ensure that solutions are sought that allow offshore wind farms and other uses of the sea to successfully co-exist (EN-3, paragraphs 2.6.180-2.6.181)	Consultation with potentially affected stakeholders has been carried out from the early stages of the Mona Offshore Wind Project and continues through the pre-application consultation process. Details of this are presented in Table 14.5.
As such, the IPC should be satisfied that the site selection and site design of the proposed offshore wind farm has been made with a view to avoiding or minimising disruption or economic loss or any adverse effect on safety to other offshore industries. The IPC should not consent applications which pose unacceptable risks to safety after mitigation measures have been considered. (EN-3, paragraph 2.6.184)	The Mona Offshore Wind Project has been sited to minimise disruption with other sea users, where possible. In cases where potential disruption has been highlighted by early consultation, the Mona Offshore Wind Project has, where appropriate and feasible, provided mitigation measures to reduce or negate impacts. This is discussed further within section 14.8. See also volume 1, chapter 4: Site selection and consideration of alternatives of the PEIR. See also the consultation undertaken to date and how the Mona Offshore Wind Project has considered it (Table 14.5).

Table 14.2: Summary of NPS EN-1 and NPS EN-3 policy on decision making relevant to other sea users.

NPS EN-1 and EN-3 policy	How and where considered in the PEIR
NPS EN-3	
Where a proposed wind farm potentially affects other offshore infrastructure or activity, a pragmatic approach should be employed by the IPC. In such circumstances the IPC should expect the applicant to minimise negative impacts and reduce risks to as low as reasonably practicable. (EN-3, paragraph 2.6.183)	Section 14.8 describes the impact assessment undertaken for the Mona Offshore Wind Project, and section 14.7 identifies measures adopted to minimise negative impacts and reduce risks.
As such, the IPC should be satisfied that the site selection and site design of the wind farm has been made with a view to avoiding or minimising disruption or economic loss or any adverse effects on safety to other offshore industries. The IPC should not consent applications which pose unacceptable risks to safety after mitigation measures have been considered. (EN-3, paragraph 2.6.184)	As per volume 1, chapter 4: Site selection and consideration of alternatives of the PEIR, the Mona Offshore Wind Project has been sited to minimise conflicts with other sea users where possible. In cases where conflict has been highlighted through consultation (Table 14.5), mitigation measures have been proposed to reduce or negate impacts (section 14.8).

NPS EN-1 and EN-3 policy	How and where considered in the PEIR
Providing proposed schemes have been carefully designed and the necessary consultation has been undertaken at an early stage, mitigation measures may be possible to negate or reduce effects on other offshore infrastructure or operations to a level sufficient to enable the IPC to grant consent. (EN-3, paragraph 2.6.186)	
Detailed discussions between the applicant for the offshore wind farm and the relevant consultees should have progressed as far as reasonably possible prior to the submission of an application to the IPC. As such, appropriate mitigation should be included in any application to the IPC and ideally agreed between relevant parties. (EN-3, paragraph 2.6.187)	As per volume 1, chapter 4: Site selection and consideration of alternatives of the PEIR, the Mona Offshore Wind Project has been sited to minimise conflicts with other sea users where possible. In cases where conflict has been highlighted through consultation (Table 14.5), mitigation measures have been proposed to reduce or negate impacts (section 14.7).
In some circumstances, the IPC may wish to consider the potential to use requirements involving arbitration as a means of resolving how adverse impacts on other commercial activities will be addressed. (EN-3, paragraph 2.6.188)	

14.2.2 Welsh National Marine Plan

14.2.2.1 The Welsh National Marine Plan (WNMP) was published on 12 November 2019 and sets out the policy for the next 20 years for the sustainable use of Welsh seas. It includes sector objectives for renewable energy to support the decarbonisation of the Welsh economy and the use of marine renewable energy, including offshore wind farms. Key provisions related to other sea users are set out in Table 14.3.

Table 14.3: WNMP policies of relevance to other sea users.

Policy	Key provisions	How and where considered in the PEIR
SAF_01: Safeguarding existing activity	a. Proposals likely to have significant adverse impacts upon an established activity covered by a formal application or authorisation must demonstrate how they will address compatibility issues with that activity. Proposals unable to demonstrate adequate compatibility must present a clear and convincing case for the proposal to progress under exceptional circumstances. b. Proposals likely to have significant adverse impacts upon an established activity not subject to a formal authorisation must demonstrate how they will address compatibility issues with that activity. Proposals unable to demonstrate adequate compatibility must present a clear and convincing case for proceeding.	This chapter covers established activities such as aggregate extraction and disposal, infrastructure and recreational activities. Impacts on these activities are assessed in section 14.8. Measures adopted as part of the Mona Offshore Wind Project to reduce and/or avoid adverse impacts are presented in 14.7.

14.2.3 North West Inshore and North West Offshore Coast Marine Plans

14.2.3.1 The assessment of potential changes to other sea users 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, 2021). Key provisions are set out in Table 14.4 along with details as to how these have been addressed within the assessment.

Table 14.4: North West Inshore and North West Offshore Marine Plan policies of relevance to other sea users.

Policy	Key provisions	How and where considered in the PEIR
NW-AGG-1	Proposals in areas where a licence for extraction of aggregates has been granted or formally applied for should not be authorised, unless it is demonstrated that the proposal is compatible with aggregate extraction.	As shown in Figure 14.2, there is no overlap between the Mona Offshore Wind Project and any marine aggregate extraction sites. The nearest site is Liverpool Bay 457, which is 4.4km from the Mona Array Area (Table 14.7).

Policy	Key provisions	How and where considered in the PEIR
NW-CO-1	Proposals that may have significant adverse impacts on, or displace, existing activities must demonstrate that they will, in order of preference: • Avoid • Minimise • 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.	Measures adopted as part of the Mona Offshore Wind Project (with relevance to other sea users) are contained in section 14.6.2, and an assessment of impacts is contained in section 14.8.
NW-CAB-1	Preference should be given to proposals for cable installation where the method of protection is burial. Where burial is not achievable, decisions should take account of protection measures for the cable that may be proposed by the applicant. Where burial or protection measures are not appropriate, proposals should state the case for proceeding without those measures.	Cable burial is one of the measures adopted as part of the Mona Offshore Wind Project listed in section 14.7.
NW-CAB-3	Where seeking to locate close to existing subsea cables, proposals should demonstrate compatibility with ongoing function, maintenance and decommissioning activities relating to the cable.	Cable crossing and proximity agreements are measures adopted as part of the Mona Offshore Wind Project listed in section 14.7.
NW-OG-1	Proposals in areas where a licence for oil and gas has been granted or formally applied for should not be authorised unless it is demonstrated that the other development or activity is compatible with the oil and gas activity.	There are no currently licenced oil and gas blocks within the local other sea users study area.

14.3 Consultation

14.3.1.1 A summary of the key issues raised during consultation activities undertaken to date specific to other sea users is presented in Table 14.5 below, together with how these issues have been considered in the production of this PEIR chapter.

Table 14.5: Summary of key consultation issues raised during consultation activities undertaken for the Mona Offshore Wind Project relevant to other sea users.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
20 April 2022	Spirit Energy response to initial invitation to comment	• Anticipation of pipeline, cable crossing and/or proximity agreements to be established • Notification of the potential of the construction and placement of wind turbines to effect Radar Early Warning Systems (REWS) effectiveness for collision risk management, and the ability of REWS to detect vessels.	• Crossing and proximity agreements are noted as measures adopted as part of the Mona Offshore Wind Project in Table 14.14 • Impact on REWS addressed in section 14.8.8.
10 June 2022	Carl Davies, stakeholder – Response to Scoping Report	Queried the representation of the charter angling boat industry at meetings up to February 2022, and enquired as to the final date for public consultation.	Confirmed that consultation on the Scoping Report represented only the first stage and did not preclude wider consultation. Notified the stakeholder of a series of consultation events through June and July 2022 and that the Applicant was in the process of developing a more targeted stakeholder engagement plan.
15 June 2022	Isle of Man Department of Infrastructure in the Planning Inspectorate Scoping Opinion	Notification of the presence of an Ørsted proposed offshore wind farm with an Agreement for Lease (AfL) in place, within Isle of Man territorial waters.	This proposed offshore wind farm has been acknowledged in section 14.4.2.18 and Table 14.8.
15 June 2022	Isle of Man Department of Infrastructure in the Planning Inspectorate Scoping Opinion	Notification for the purpose of transparency of Manx Utilities plans relating to a second interconnector cable for the Isle of Man, planned to run to the north of the Mona Array Area.	Details on the second interconnector cable are currently unavailable. When more is known about the location and scope of this project, it will be included in the Environmental Statement.
15 June 2022	Natural Resources Wales (NRW) in the Planning Inspectorate Scoping Opinion	Queried whether Porth Eirias Water Sports Centre in Colwyn Bay needs to be included in the baseline environment description.	Acknowledged in the baseline environment description (section 14.4).
21 November 2022	RWE response to pre-consultation questionnaire	Information on Awel y Môr, including proposed activities, cables and future vessel access requirements.	Offshore wind farms are considered in the baseline environment description (section 14.4.2.18).
24 November 2022	Spirit Energy response to pre-consultation questionnaire	Information on assets in the east Irish Sea and future activity.	Oil and gas receptors are described in the baseline environment description (section 14.4.2.25).
24 November 2022	Harbour Energy response to pre-consultation questionnaire	Information on assets in the east Irish Sea and future activity.	Oil and gas receptors are described in the baseline environment description (section 14.4.2.25).
25 November 2022	Rhyl Charter Anglers meeting to discuss impacts of the Morgan Offshore Wind Project Generation Assets (hereafter referred to as the Morgan Generation Assets) and the Mona Offshore Wind Project on charter angling	Discussion of fishing within the Morgan and Mona Array Areas, and impacts of previously constructed wind farms in the Irish Sea (e.g. North Hoyle, Gwynt y Môr, Burbo Bank and Rhyl Flats) on charter angling.	Charter anglers expressed that it was unlikely that any fishing would occur within either the Morgan or Mona Array Area, especially during construction. Impacts on recreational activities, including recreational fishing, are considered in section 14.8.2.
8 December 2022	ENI response to pre-consultation questionnaire	Information on assets in the east Irish Sea and future activity.	Oil and gas receptors are described in the baseline environment description (section 14.4.2.25).

14.4 Baseline environment

14.4.1 Desktop study

14.4.1.1 Information on other sea users within the other sea users study areas was collected through a detailed desktop review of existing studies and datasets. These are summarised in Table 14.6 below.

Table 14.6: Summary of key desktop reports.

Title	Source	Year	Author
Cable routes	Kis-Orca	2021	Kis-Orca
Disposal sites	EMODnet	2015	EMODnet
Offshore wind farms	The Crown Estate (TCE)	2022	TCE
Recipients of oil and gas questionnaire	TCE conflicts check	2021	TCE
Aggregate extraction areas	TCE	2022	TCE
Pipelines	North Sea Transition Authority (NSTA)	2022	NSTA
Wells	NSTA	2022	NSTA
Hydrocarbon platforms	NSTA	2022	NSTA
Subsurface structures	NSTA	2022	NSTA
Hydrocarbon fields	NSTA	2022	NSTA
Oil and gas licence blocks	NSTA	2022	NSTA
United Kingdom Continental Shelf (UKCS) block	NSTA	2022	NSTA
Marinas	UK Coastal Atlas of Recreational Boating	2018	RYA
Recreational activities	UK Coastal Atlas of Recreational Boating	2018	RYA
RYA clubs	UK Coastal Atlas of Recreational Boating	2018	RYA
RYA training centres	UK Coastal Atlas of Recreational Boating	2018	RYA
General boating areas	UK Coastal Atlas of Recreational Boating	2018	RYA
Data from marine vessel traffic surveys	MarineTraffic	2019	MarineTraffic
Wrecks (diving sites)	UK Diving	2010	UK Diving
Communication links	Ofcom	2019	Ofcom
Recreational fishing	Cefas British Sea Fishing	2021 2020	Cefas British Sea Fishing

14.4.1.2 No site-specific surveys have been undertaken to inform the EIA for other sea users. This is because a sufficient amount of information relating to other sea users is already available (Table 14.6). The majority of the data used to inform the EIA for other sea users has been taken from these desktop studies. Survey data from 2019 MarineTraffic surveys has been incorporated in the form of Automatic Identification System (AIS) tracks for recreational vessels (Figure 14.3).

14.4.2 Baseline environment

Regional other sea users study area

14.4.2.1 Other sea users receptors within the regional other sea users study area include:

- Aggregate extraction sites
- Disposal sites
- Recreational dive sites.

14.4.2.2 The baseline environment for these receptors is described below.

Marine aggregate extraction sites

14.4.2.3 As per Figure 14.2, there are three licenced marine aggregate extraction areas in the vicinity of the Mona Offshore Wind Project. Information about these three production agreement areas, from north to south, is contained in Table 14.7.

14.4.2.4 Of these three sites, none overlap with either the Mona Array Area or the Mona Offshore Cable Corridor and only Liverpool Bay 457 overlaps with the regional other sea users study area.

Table 14.7: Marine aggregate extraction areas in the vicinity of the Mona Offshore Wind Project.

Area name	Area number	Operator name	Distance to Mona Array Area (km)
Liverpool Bay	457	Westminster Gravels Ltd.	4.4
Liverpool Bay	1808	Hanson Aggregates Marine Ltd.	14.5
Hilbre Swash	393	Mersey Sand Suppliers	17.1

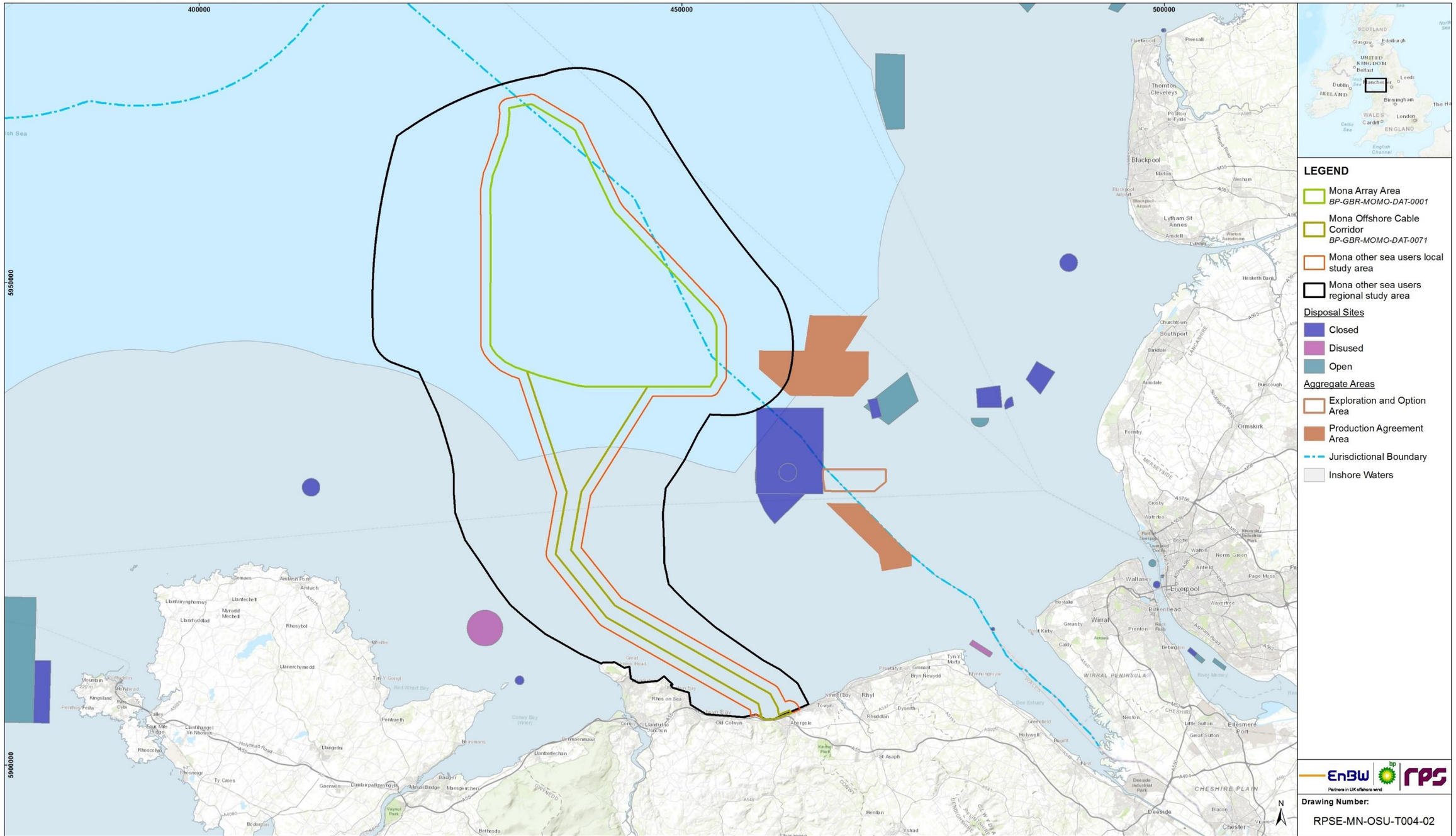


Figure 14.2: Marine aggregate extraction and disposal sites in the vicinity of the Mona Offshore Wind Project.

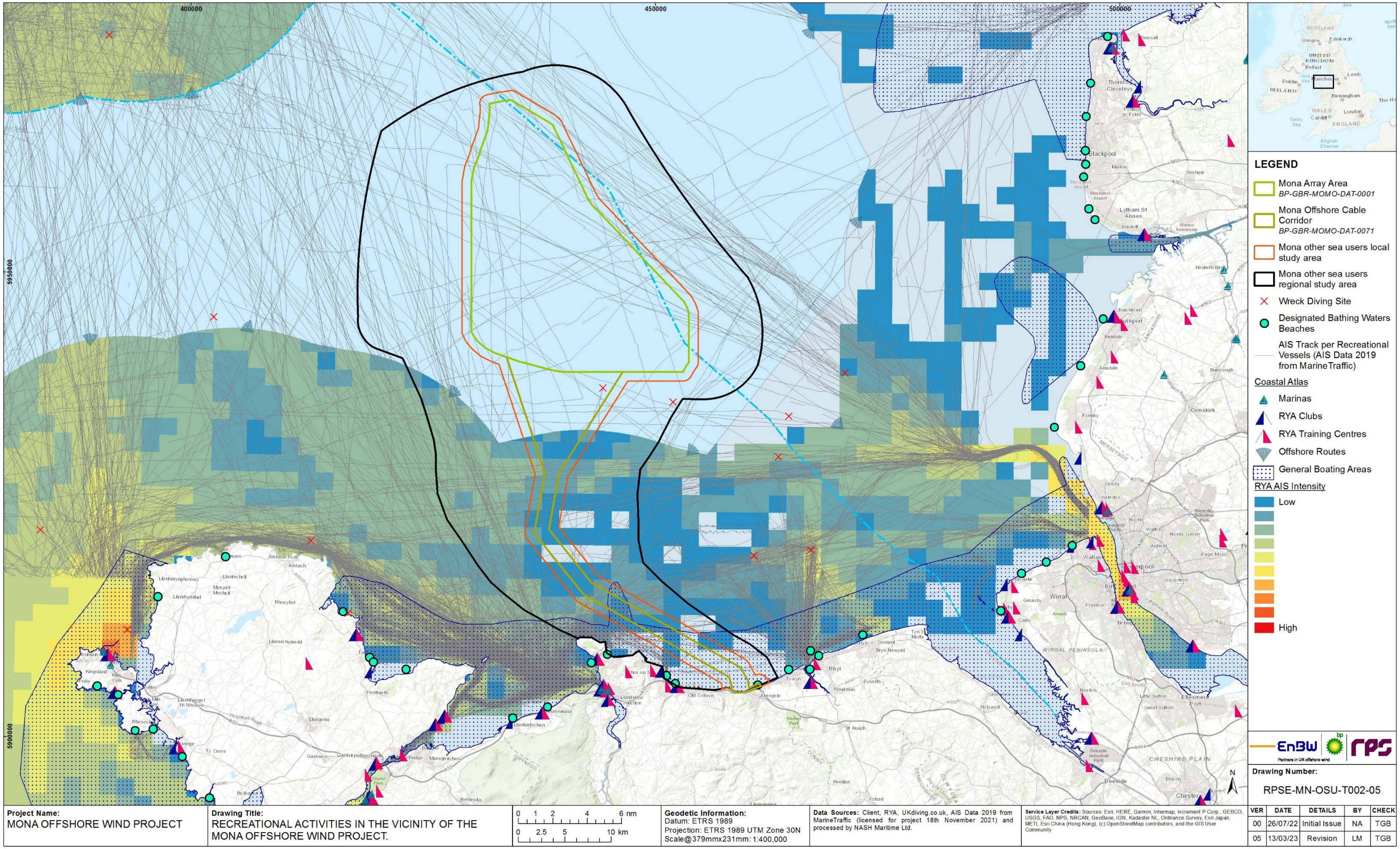


Figure 14.3: Recreational activities in the vicinity of the Mona Offshore Wind Project.

Marine disposal sites

14.4.2.5 Liverpool Bay has been used since the 19th century for disposal purposes, primarily material from the Mersey Docks. In the wider east Irish Sea, dredged material is the main material being disposed of, associated with dredging activities at Liverpool docks and the River Mersey.

14.4.2.6 As shown in Figure 14.2, there are no marine disposal sites within the regional other sea users study area. There is a slight overlap between the east edge of the regional other sea users study area and the Liverpool Bay (sludge) B site, which is 5.2km from the Mona Array Area. This site received sewage sludge and industrial waste for disposal and was closed in 1998.

Recreational dive sites

14.4.2.7 There are two wreck diving sites within the regional other sea users study area (Figure 14.3), including one in the Mona Offshore Cable Corridor itself near the south boundary of the Mona Array Area.

Recreational bathing sites

14.4.2.8 There are four recreational bathing sites within the regional other sea users study area (Figure 14.3):

- Llandudno North Shore
- Colwyn Bay
- Colwyn Bay Porth Eirias
- Abergele (Pensarn) – this site overlaps with the Mona Offshore Cable Corridor.

Local other sea users study area

14.4.2.9 Other sea users receptors within the local other sea users study area include:

- Offshore energy projects (including other offshore wind farms, oil and gas activities and carbon capture and storage)
- Cable and pipeline operators
- Offshore microwave fixed communication links
- Recreational activities such as sailing and motor cruising, recreational fishing and inshore water sports.

14.4.2.10 The baseline environment for these receptors is described below.

Recreational sailing and motor cruising

14.4.2.11 Recreational sailing is generally divided into two categories: offshore and inshore. Offshore sailing is usually undertaken by yachts in the form of either cruising or organised offshore racing. Inshore sailing is typically undertaken by smaller vessels including dinghies and recreational vessels that are used for either cruising at leisure or racing. Cruising may include day trips between local ports and often includes a return journey to the home port on the same day. Inshore racing takes place around racing marks and navigational buoyage.

14.4.2.12 Navigational safety and risk to recreational vessels is considered in volume 6, chapter 12.1: Navigational Risk Assessment (the NRA) of the PEIR. The other sea users Environmental Statement chapter will only consider receptors undertaking recreational sailing and motor cruising as an activity. Data collection and consultation activities carried out to inform the NRA will be used as an additional data source to inform the other sea users assessment.

14.4.2.13 Figure 14.3 illustrates that recreational sailing and motor cruising in inshore and coastal areas is of a low to medium intensity. The RYA data is limited to inshore waters, but AIS data tracks show that recreational vessels also transit through offshore waters within the local other sea users study area. There is a general boating area overlapping with the south of the local other sea users study area.

14.4.2.14 There are no RYA clubs, training centres or marinas located within the local other sea users study area.

Recreational fishing

14.4.2.15 Sea fishing trips run from Conwy, North Wales and specialise in wreck fishing, deep sea fishing and reef fishing from Anglesey to Liverpool Bay (Sea Fishing Trips in North Wales, 2022). Sea fishing trips also operate from the Isle of Man (Manx Sea Fishing, 2022) and Fleetwood, Lancashire (Blue Mink Boat Charters, 2022) amongst other ports along the coasts of the east Irish Sea.

14.4.2.16 North Wales is a popular Welsh destination for angling, with Conwy County hosting the World Shore Angling Championships (WSAC). The three locations chosen to host the 2018 championships were Penmaenmawr, Colwyn Bay/Rhos-on-Sea and Llandudno. Consultation is ongoing with local operators to further understand activities and operational range.

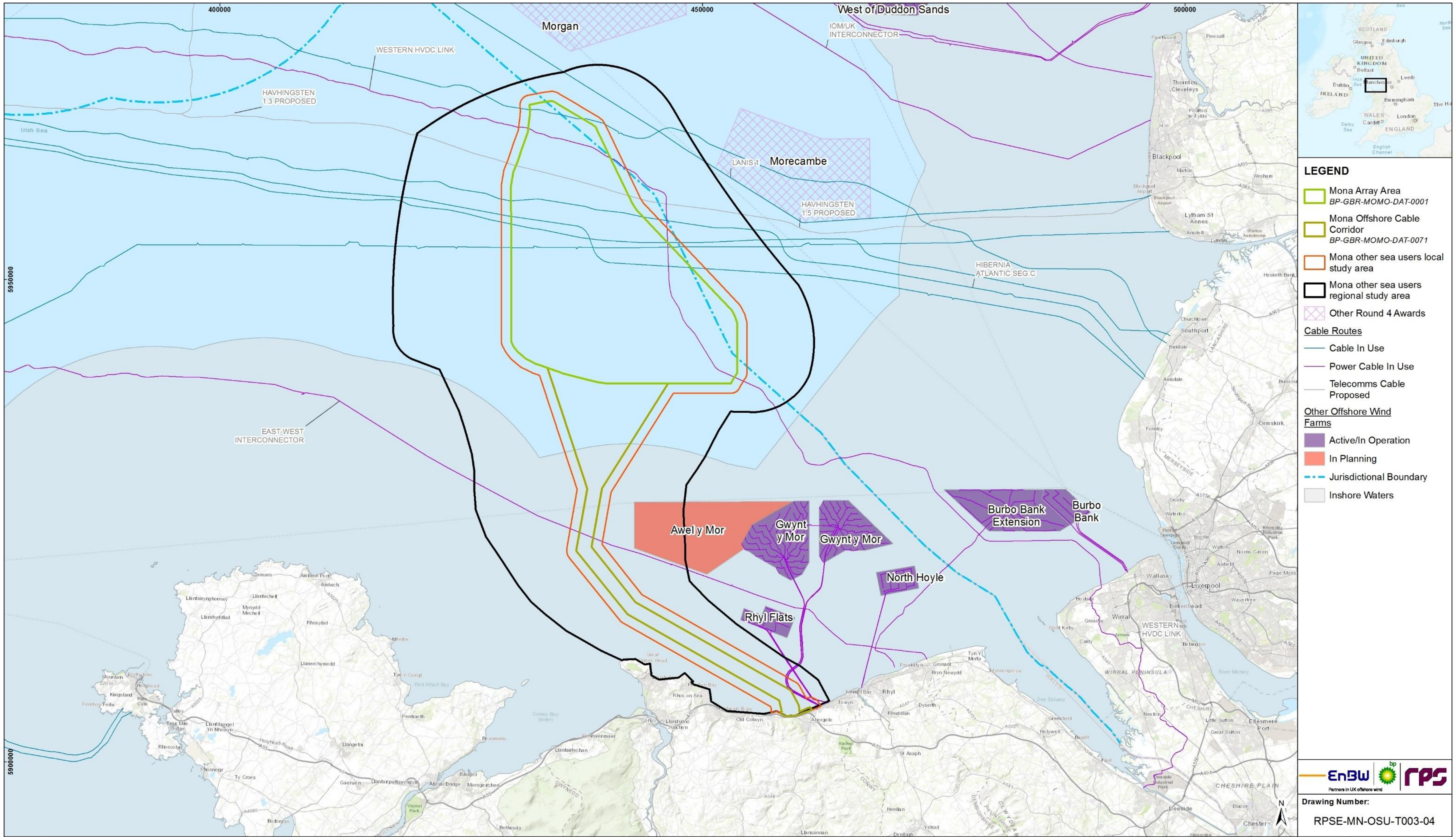
Inshore water sports

14.4.2.17 Water sports such as kite surfing, surfing, wind surfing and kayaking occur almost entirely in coastal waters, usually within 1nm of the shore. Two water sports centres (PKS Watersports in Rhyl and Porth Eirias Water Sports Centre in Colwyn Bay) also exist within the vicinity of the Mona Offshore Wind Project. Therefore, a variety of water sports including surfing, kayaking and windsurfing occur within the local other sea users study area.

Infrastructure

Offshore wind farms

14.4.2.18 There are a number of proposed and operational offshore wind farms in the east Irish Sea, the closest of which are shown in Figure 14.4. There is no spatial overlap between any proposed or operational wind farms and the local other sea users study area (and therefore the Mona Array Area or the Mona Offshore Cable Corridor).



Project Name:	Drawing Title:	Geodetic Information:	Data Sources:
MONA OFFSHORE WIND PROJECT	OTHER OFFSHORE WIND FARMS AND OFFSHORE CABLE ROUTES IN THE VICINITY OF THE MONA OFFSHORE WIND PROJECT	Datum: ETRS 1989 Projection: ETRS 1989 UTM Zone 30N Scale@379mmx231mm: 1:400,000	Client, The Crown Estate, Marine Management Organisation, Marine Scotland, Natural Resources Wales

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Figure 14.4: Other offshore wind farms and cables in the vicinity of the Mona Offshore Wind Project.[1]

[1] The Awel y Môr agreement for lease area extends further to the west than the application boundary presented, however Awel y Môr Offshore Wind Farm Ltd. have decided to develop in the area presented.

14.4.2.19 Four bidding areas for leasing under TCE Offshore Wind Leasing Round 4 were released in September 2019, of which the Mona Offshore Wind Project is one. The other two from this leasing round in the Irish Sea are the Morgan Offshore Wind Project (also being developed by the Applicant) and Morecambe Offshore Windfarm Generation Assets, being developed by Offshore Wind Ltd. (a joint venture between Cobra Instalaciones y Servicios, S.A. and Flotation Energy). Both the Morgan Offshore Wind Project and Morecambe Offshore Windfarm have been scoped into the Pathways to 2030 workstream under the Offshore Transmission Network Review (OTNR). The output of this process concluded that the Morgan Offshore Wind Project and Morecambe Offshore Windfarm should work collaboratively in connecting the wind farms to the National Grid at Penwortham in Lancashire.

14.4.2.20 Within Isle of Man territorial waters, Ørsted have signed an AfL allowing them to investigate an area for a proposed offshore wind farm. More information on the other offshore wind farms in the east Irish Sea is contained in Table 14.8.

Table 14.8: Offshore wind farms in the east Irish Sea.

Name	Capacity (MW)	Operator	Distance to Mona Array Area (km)	Distance to Mona Offshore Cable Corridor (km)
Operational				
Gwynt y Môr	576	RWE Renewables	13.8	9.9
Rhyl Flats	90	RWE Renewables	23.3	3.8
Burbo Bank Extension	259	Ørsted	24.6	26.3
North Hoyle	60	RWE npower renewables	24.7	13.5
Walney Extension (3 and 4)	659	Ørsted	27.4	47.7
Burbo Bank	90	Ørsted	30	26.3
Walney 2	184	Walney (UK) Offshore Windfarms Ltd.	31	51.4
West of Duddon Sands	389	Ørsted	31.2	43.9
Walney 1	184	Walney (UK) Offshore Windfarms Ltd.	32.7	49.6
Ormonde	150	Ormonde Energy Ltd.	41.2	57.9
Barrow	90	Barrow Offshore Wind Ltd.	43.6	53.9
Round 4 projects				
Morgan Generation Assets	1,500	bp/EnBW	5.5	32.9
Morecambe Offshore Windfarm	480	Offshore Wind Ltd.	8.9	21.7
Proposed				
Awel y Môr	1,100	RWE Renewables	12.2	3.6
Ørsted AfL	700	Ørsted	32.4	59.9

Cables

14.4.2.21 There are seven active cables and one proposed cable which intersect the local other sea users study area. The details of these are contained in Table 14.9 and shown in Figure 14.4.

Table 14.9: Cables which intersect the local other sea users study area.

Name	Operator
Cables	
ESAT-2	BT
Sirius South	Virgin Media
Rockabill	euNetworks
Hibernia Atlantic Segment A	Hibernia Atlantic
Hibernia Atlantic Segment C	Hibernia Atlantic
Power Cables	
East-West Interconnector	EirGrid
Western HVDC Link	National Grid and Scottish Power
Proposed telecoms cables	
Havhingsten 1.5	Alcatel Submarine Networks

14.4.2.22 In addition to these, the Lanis-1 cable operated by Vodafone passes just to the north of the Mona Array Area.

Oil and gas licence blocks

14.4.2.23 Licences for the exploration and extraction of oil and gas on the UKCS have been offered since 1964 and are granted by the NSTA. These licences are granted for identified geographical United Kingdom Hydrographic Office (UKHO) areas (blocks and sub-blocks) in consecutive rounds. As shown in Figure 14.5, no currently licenced blocks overlap with the local other sea users study area, although block 110/12a immediately to the east of the local other sea users study area is currently licenced and operated by ENI UK Ltd.

14.4.2.24 On 7 October 2022 the NSTA launched the 33rd Oil and Gas Licensing Round, inviting applications for licences to explore and potentially develop 898 blocks and part-blocks, which may lead to over 100 licences being awarded. If any of the blocks licenced as

a result of this are located within the local other sea users study area, impacts upon them will be considered in the Environmental Statement.

Oil and gas platforms and pipelines

14.4.2.25 Figure 14.6 shows offshore oil and gas installations and pipelines in the vicinity of the Mona Offshore Wind Project. There are two main clusters of platforms with associated pipelines nearby:

- The South Morecambe cluster to the northeast of the Mona Array Area, operated by Spirit Energy. The manned central processing complex comprises three bridge-linked platforms, an accommodation platform (AP1), central processing platform (CPP1) and drilling platform (DP1). There are four further satellites tied back to the central processing complex which are DP3, DP4, DP6 and DP8. Production from DP3 and DP4 has ceased, the wells have been abandoned and the platforms are currently being decommissioned
- The Douglas cluster to the southeast of the Mona Array Area (including the Offshore Storage Installation (OSI), a barge which serves as a floating oil terminal), operated by ENI.

14.4.2.26 There are no platforms or pipelines within the local other sea users study area.

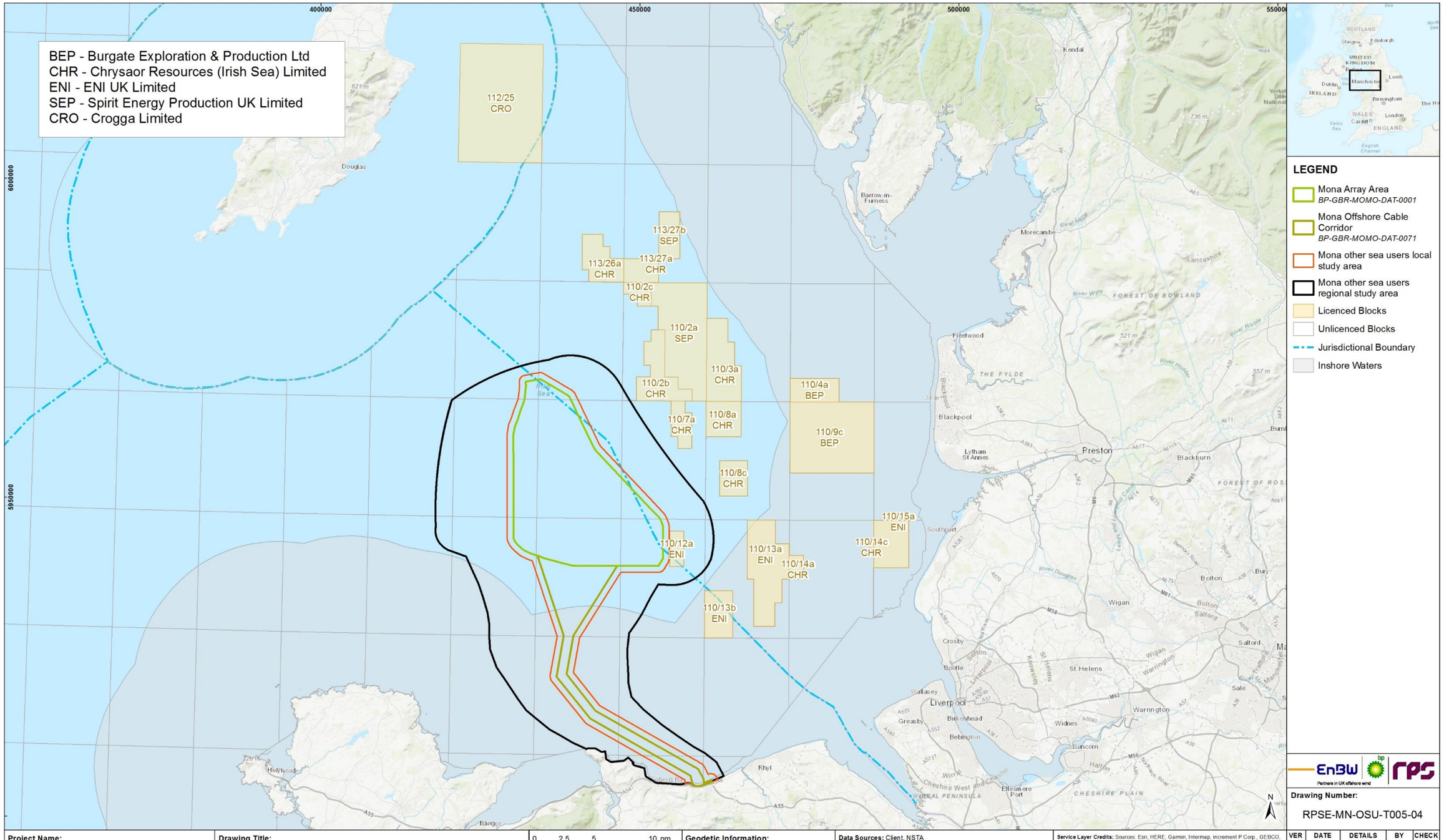

Figure 14.5: Oil and gas licence blocks in the vicinity of the Mona Offshore Wind Project.

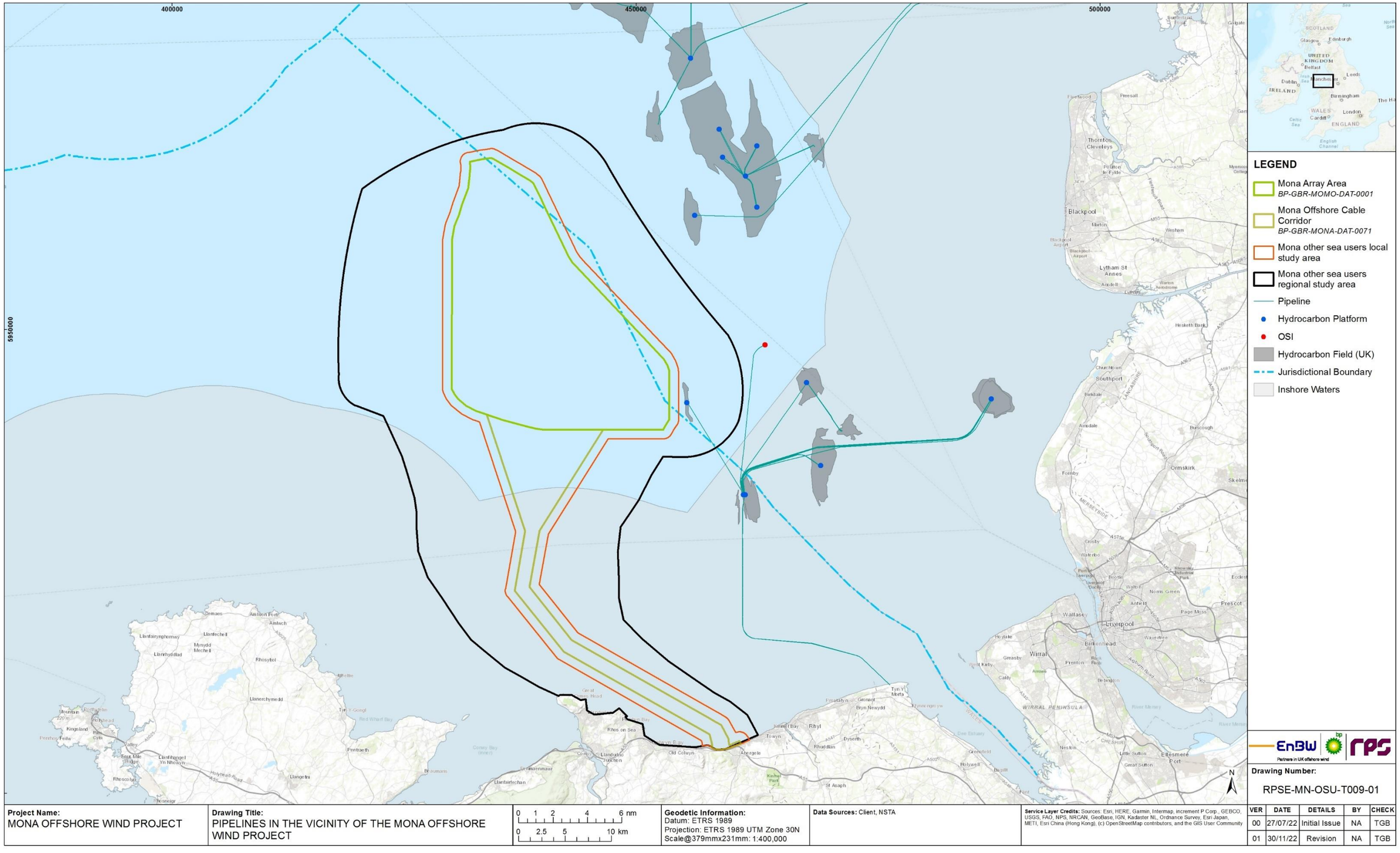

Figure 14.6: Offshore oil and gas platforms, installations and pipelines in the vicinity of the Mona Offshore Wind Project.

14.4.3 Future baseline scenario

14.4.3.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require that "*an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*" is included within the Environmental Statement. In the event that the Mona Offshore Wind Project does not come forward, an assessment of the future baseline conditions has been carried out and is described within this section.

14.4.3.2 The future baseline scenario for recreational activities is considered unlikely to change substantially from that presented in section 14.4.2, in the absence of the Mona Offshore Wind Project. The future baseline scenario for offshore cables and marine aggregates is subject to gradual change as new projects and sites are identified. The future baseline scenario for oil and gas activities and associated development (including platforms, wells and pipelines) is considered to be subject to the greatest degree of change, which will depend upon currently unknown outcomes of, for example, acquisitions, exploration and development and decommissioning.

14.4.4 Data limitations

14.4.4.1 The data sources used in this chapter are detailed in Table 14.6. The data used is the most up to date publicly available information which can be obtained from the applicable data sources as cited, and data that has been provided through consultation as detailed in section 14.3. The data is therefore limited by what is available and by what has been made available at the time of writing the PEIR.

14.4.4.2 Given the level of activity in the east Irish Sea, it is considered that the data employed in the assessment is of a robust nature and is sufficient for the purposes of the impact assessment presented.

14.5 Impact assessment methodology

14.5.1 Overview

14.5.1.1 The other sea users impact assessment has followed the methodology set out in volume 1, chapter 5: EIA methodology of the PEIR. Specific to the other sea users impact assessment, the following guidance documents have also been considered:

- The RYA's position on offshore renewable energy developments: Paper 1 (of 4) – Wind Energy, June 2019 (RYA, 2019)
- European Subsea Cables UK Association (ESCA) guideline no 6, the proximity of offshore renewable energy installations and submarine cable infrastructure in UK waters (ESCA, 2016)
- International Cable Protection Committee (ICPC) recommendations:
  - Recommendation No.2-11B: Cable routing and reporting criteria (ICPC, 2015)
  - Recommendation No.3-10C: Telecommunications cable and oil pipeline/power cables crossing criteria (ICPC, 2014)
  - Recommendation No.13-2C: The proximity of offshore renewable wind energy installations and submarine cable infrastructure in national waters (ICPC, 2013)
- Pipeline crossing agreement and proximity agreement pack (Oil and Gas UK, 2021)
- Submarine cables and offshore renewable energy installations proximity study (TCE, 2012).

14.5.2 Impact assessment criteria

14.5.2.1 The criteria for determining the significance of effects is a two-stage process that involves defining the magnitude of the impacts and the sensitivity of the receptors. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in volume 1, chapter 5: EIA methodology of the PEIR.

14.5.2.2 The criteria for defining magnitude in this chapter are outlined in Table 14.10 below.

Table 14.10: Definition of terms relating to the magnitude of an impact.

Term	Definition
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse)
	Large scale or major improvement or resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial)
Medium	Loss of resource, but not adversely affecting integrity of resource; partial loss of/damage to key characteristics, features or elements (Adverse)
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial)
Low	Some measurable change in attributes, quality or vulnerability, minor loss or, or alteration to, one (maybe more) key characteristics, features or elements (Adverse)
	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial)
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse)
	Very minor benefit to, or positive addition of one or more characteristics, features or elements (Beneficial)
No change	No loss or alteration of characteristics, features or elements; no observable impact either adverse or beneficial

14.5.2.3 The criteria for defining sensitivity in this chapter are outlined in Table 14.11 below.

Table 14.11: Definition of terms relating to the sensitivity of the receptor.

Sensitivity	Definition
Very High	High value/importance and vulnerability and limited potential for recoverability for recreational activities, cable/pipeline activities, aggregate extraction or oil and gas operations resulting from: Very low spatial adaptability due to extent of operational range and/or limited ability to operate in other areas Very low spatial tolerance due to dependence upon a limited number of sites. Very low recoverability with some ability to mitigate loss of area by operating in alternative areas.
High	High value/importance and vulnerability and limited potential for recoverability for recreational activities, cable / pipeline activities, aggregate extraction or oil and gas operations resulting from: Low spatial adaptability due to extent of operational range and/or limited ability to operate in other areas Low spatial tolerance due to dependence upon a limited number of sites. Lowrecoverability with some ability to mitigate loss of area by operating in alternative areas.
Medium	High or medium value/importance and vulnerability and limited potential for recoverability for recreational activities, cable / pipeline activities, aggregate extraction or oil and gas operations resulting from: Limited spatial adaptability due to extent of operational range and/or limited ability to operate in other areas Limited spatial tolerance due to dependence upon a limited number of sites. Limited recoverability with some ability to mitigate loss of area by operating in alternative areas.
Low	Low or medium value/importance and vulnerability and limited potential for recoverability for recreational activities, cable / pipeline activities, aggregate extraction or oil and gas operations resulting from: Moderate spatial adaptability due to extent of operational range and/or limited ability to operate in other areas Moderate spatial tolerance due to dependence upon a limited number of sites. Moderate recoverability with some ability to mitigate loss of area by operating in alternative areas.
Negligible	Very low value/importance and vulnerability and high potential for recoverability for recreational activities, cable / pipeline activities, aggregate extraction or oil and gas operations resulting from: High spatial adaptability due to extent of operational range and/or limited ability to operate in other areas High spatial tolerance due to dependence upon a limited number of sites. High recoverability with some ability to mitigate loss of area by operating in alternative areas.

14.5.2.4 The significance of the effect upon other sea users is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The particular method employed for this assessment is presented in Table 14.12. Where a range of significance of effect is presented in Table 14.12, the final assessment for each effect is based upon expert judgement.

14.5.2.5 For the purposes of this assessment, any effects with a significance level of minor or less have been concluded to be not significant in terms of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Table 14.12: Matrix used for the assessment of the significance of the 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
Very High	No change	Minor	Moderate or Major	Major	Major

14.6 Key parameters for assessment

14.6.1 Maximum Design Scenario

14.6.1.1 The Maximum Design Scenarios (MDSs) identified in Table 14.13 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the Project Design Envelope provided in volume 1, chapter 3: Project description of the PEIR. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g. different infrastructure layout), to that assessed here be taken forward in the final design scheme.

Table 14.13: Maximum Design Scenario considered for the assessment of potential impacts on other sea users.

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

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Displacement of recreational activities	✓	✓	✓	**Construction phase** • Four year construction duration • During the construction phase the displacement of recreational activities 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: 500m safety zones around wind turbines and offshore substation platforms (OSPs) during their construction. 50m safety zone around each infrastructure during the construction phase where 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 500m around vessels installing inter-array cables, interconnector cables and subtidal export cables • Construction vessels: Up to 1,983 installation vessel movements (return trips) during construction (535 main installation/support vessels, 76 tug/anchor handlers, 48 cable lay vessels, 18 guard vessels, 34 survey vessels, 43 seabed preparation vessels, 1,165 crew transfer vessels (CTVs), 42 scour protection installation vessels and 22 cable protection installation vessels) • Reduction of access around infrastructure during construction: – Wind turbines: up to 107, minimum spacing 1,000m between rows of wind turbines and 875m between wind turbines in a row – OSPs: up to four – Inter-array cables: up to 500km, up to 67 cable crossings – Interconnector cables: up to 50km, up to 10 cable crossings – Export cable: up to 360km, up to 24 cable crossings. **Operations and maintenance phase** • 35 year operations and maintenance duration • Operational safety zones: 500m around infrastructure such as a wind turbine during periods of major maintenance • Vessels: Up to a total of 21 operations and maintenance vessels on site at any one time (six CTVs/workboats, three jack-up vessels, four cable repair vessels, four service operation vessels (SOV) or similar and four excavators/backhoe dredgers). Up to 2,351 operations and maintenance vessel movements (return trips) each year (2,190 CTVs/workboats, 25 jack-up vessels, 16 cable repair vessels, 104 SOV or similar and 16 excavators/backhoe dredgers). • Reduction of access in the array area due to the presence of infrastructure, such as wind turbines, as per the construction phase above and cable repair/reburial activities: – Inter-array cables: repair of up 10km of cable in one event every three years. Reburial of up to 20km of cable in one event every five years – Interconnector cables: repair of up to 16km of cable in each of three events every 10 years. Reburial of up to 2km of cable in one event every five years – Subtidal export cables: repair of up to 32km of cable in eight events every five years. Reburial of up to 15km of cable in one event every five years – Intertidal export cables: Repair of 1.6km of intertidal cable per five years. **Decommissioning phase** • During the decommissioning phase any displacement of recreational activities would gradually decrease from the operational MDS as structures are removed and cut below the seabed.	The greatest amount of the largest infrastructure and associated minimum spacing and the greatest extent of advisory safety zones, over the longest construction, operations and maintenance, and decommissioning phases represents the greatest potential for displacement of recreational activities.

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Increased SSCs and associated deposition affecting recreational diving and bathing sites	✓	✓	✓	**Construction phase** • Four year construction duration <u>Site preparation:</u> • Sandwave clearance activities undertaken over an approximate 12 month duration within the wider four year construction programme. • Wind turbines and OSP foundations: sandwave clearance has been calculated on the basis of wind turbine foundations and an assumption of clearance at up to 50% of locations. Spoil volume per location has been calculated on the basis of 34 locations supporting the largest suction bucket four-legged jacket foundation with an associated base diameter of 205m to an average depth of 7.5m. This equates to a total spoil volume of 8,416,621m^3 and a 'per location' volume of 247,548m^3 • Inter-array cables: sandwave clearance along 250km of cable length, with a width of 104m, to an average depth of 5.1m. Total spoil volume of 9,542,806m^3 • Interconnector cables: sandwave clearance along 30km of cable length, with a width of 104m, to an average depth of 5.1m. Total spoil volume of 3,060,814m^3 • Offshore export cables: sandwave clearance along 252km of export cable, with a width of 104m, to an average depth of 5.1m. Total spoil volume of 12,051,955m^3 • Removal of up to 72,000m of disused cables. <u>Foundation installation:</u> • Undertaken over an approximate 12 month duration • Wind turbines: installation of up to 68 monopiles of 16m diameter, drilled to a depth of 60m at a rate of up to 0.89m/h. Two monopiles installed concurrently. Spoil volume of 13,460m^3 per pile • OSPs: installation of one OSP with foundations consisting of two 16m monopiles, drilled to a depth of 60m at a rate of up to 0.89m/h. Two monopiles installed concurrently. Spoil volume of 13,460m^3 per pile. <u>Cable installation:</u> • Inter-array cables: Installation via trenching of up to 500km of cable, with a trench width of up to 3m and a depth of up to 3m. Total spoil volume of 2,250,000m^3. Installed over a period of approximately 12 months • Interconnector cables: installation via trenching of up to 50km of cable, with a trench width of up to 3m and a depth of up to 3m. Total spoil volume of 225,000m^3. Installed over a period of approximately four months • Subtidal export cables: installation via trenching of up to 360km of cable, with a trench width of up to 3m and a depth of up to 3m. Total spoil volume of 1,620,000m^3. Installed over a period of approximately 15 months • Intertidal export cables: installation via open trenching of up to 6km of cable, with a trench width of 1m and a depth of up to 3m. Installed over a period of approximately nine months. **Operations and maintenance phase** • 35 year operations and maintenance duration • Inter-array cables: repair of up to 10km of cable in one event every three years. Reburial of up to 20km of cable in one event every five years • Interconnector cables: repair of up to 16km of cable in each of three events every 10 years. Reburial of up to 2km of cable in one event every five years • Subtidal export cables: repair of up to 32km of cable in eight events every five years. Reburial of up to 15km of cable in one event every five years • Intertidal export cables: Repair of 1.6km of intertidal cable every five years. **Decommissioning phase** • Removal of suction bucket jacket: SSC will be temporarily increased due to the overpressure required to release them.	<u>Site preparation:</u> The volume of material to be cleared from individual sandwaves will vary according to the local dimensions of the sandwave (height, length and shape) and the level to which the sandwave must be reduced. These details are not fully known at this stage, however based on the available data, it is anticipated that the sandwaves requiring clearance in the array area are likely to be in the range of 15m in height. Site clearance activities may be undertaken using a range of techniques. The suction hopper dredger will result in the greatest increase in suspended sediment and largest plume extent as material is released near the water surface during the disposal of material. Boulder clearance activities will result in minimal increases in SSC and have therefore not been considered in the assessment. <u>Foundation installation:</u> Installation of foundations via augured (drilled) operations results in the release of the largest volume of sediment. The greatest volume of sediment disturbance by drilling at individual foundation locations and across the site as a whole is associated with the largest diameter monopile for wind turbines. The selected OSP scenario represents the greatest volume of sediment to be released for a drilling event. <u>Cable installation:</u> Cable routes inevitably include a variety of seabed material and in some areas 3m depth may not be achieved or may be of a coarser nature which settles in the vicinity of the cable route. The assessment therefore considers the upper bound in terms of suspended sediment and dispersion potential. Cables may be buried by ploughing, trenching or jetting with jetting mobilising the greatest volume of material to increase SSC. The use of open trenching in the intertidal area releases the greatest volume of material into the water column and therefore provides the upper bound of impacts as compared with horizontal directional drilling (HDD) installation. <u>Operations and maintenance phase:</u> The greatest foreseeable number of cable reburial and repair events is considered to be the MDS for sediment dispersion.
Impacts to existing cables or pipelines or restrictions on access to cables or pipelines	✓	✓	✓	As for 'Displacement of recreational activities' – see above.	This represents the maximum extent of infrastructure and associated construction and maintenance activities in the vicinity of existing cables or pipelines.

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Increased SSCs and associated deposition affecting aggregate extraction areas	✓	✓	✓	As for 'Increased SSCs and associated deposition affecting recreational diving sites' – see above.	Greatest volume of sediment released into the water column, resulting in greatest potential for impact on aggregate extraction receptors. See 'Increased SSCs and associated deposition affecting recreational diving and bathing sites' above.
Alterations to sediment transport pathways affecting aggregate extraction areas	✓	✓	✓	**Construction phase** During the construction phase any alterations to sediment transport pathways affecting aggregate extraction areas 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. **Operations and maintenance phase** • Wind turbines: 68 installations with four-legged suction bucket foundations, each jacket leg with a diameter of 5m, spaced 48m apart, and each bucket with a diameter of 16m. Scour protection to a height of 2.5m. Total footprint of 10,816m^2 per wind turbine • OSPs: up to four installations with four-legged suction bucket foundations, each jacket leg with a diameter of 3m, spaced 30m apart, and each bucket with a diameter of 14m. Scour protection to a height of 2.5m. Total footprint of 6,241m^2 footprint per OSP • Inter-array cables: cable protection along 50km of the cable, with a height of up to 3m and up to 10m width. Up to 67 cable crossings, each crossing has a height of up to 4m, a width of up to 32m and a length of up to 60m • Interconnector cables: cable protection along 10km of the cable, with a height of up to 3m and up to 10m width. Up to ten cable crossings, each crossing has a height of up to 3m, a width of up to 20m and a length of up to 50m • Export cables: cable protection along 72km of the cable, with a height of up to 3m and up to 10m width. Up to 24 cable crossings, each crossing has a height of up to 3m, a width of up to 30m and a length of up to 50m. **Decommissioning phase** During the decommissioning phase any alterations to sediment transport pathways affecting aggregate extraction areas would gradually decrease from the operational MDS as structures are removed and cut below the seabed. • Scour and cable protection may remain *in situ* and continue to influence tidal currents.	The greatest in-water column blockage to influence tidal flow and wave climate is from the wind turbines with the largest four-legged suction bucket foundations. The four legs provide the greatest obstruction to tidal flows at each wind turbine site and in terms of the overall array area obstructions are only 1% smaller than the option with the largest site wide obstruction (which comprises much smaller individual obstructions). Suction bucket foundations have the largest footprint at each wind turbine in terms of scour protection and provide the greatest influence on bathymetry. The devices also have a greater footprint over the site as a whole rather than the more numerous smaller design options. The greatest overall in-water column blockage to influence tidal flow and wave climate from the OSPs is the maximum number of OSPs (four) with four-legged suction bucket foundations. These parameters also present the largest overall footprints to affect changes in bathymetry and sediment transport pathways.
Reduction or restriction of oil and gas exploration activities (including surveys, drilling and the placement of infrastructure) within the Mona Array Area	✓	✓	✓	As for 'Displacement of recreational activities' – see above.	The greatest amount of the largest infrastructure and associated minimum spacing and the greatest extent of advisory safety zones, over the longest construction, operations and maintenance, and decommissioning period represents the greatest potential for reduction or restriction of oil and gas exploration activities.
Interference with the performance of REWS located on oil and gas platforms	×	✓	×	**Operations and maintenance phase** • Wind turbines: up to 107 wind turbines, minimum spacing 1,000m between rows of wind turbines and 875m between wind turbines in a row • OSPs: up to four OSPs.	REWS may be unable to provide an effective service due to interference on radar displays from wind turbines and OSPs. The maximum number of structures is the MDS.
Interference with offshore microwave fixed communication links	×	✓	×	**Operations and maintenance phase** • Wind turbines: up to 107 wind turbines, minimum spacing 1,000m between rows of wind turbines and 875m between wind turbines in a row • OSPs: up to four OSPs.	Offshore microwave fixed communication links between offshore installations may be unable to provide an effective service due to interference caused by the physical presence of wind turbines and OSPs. The maximum number of structures is the MDS.

14.6.2 Impacts scoped out of the assessment

14.6.2.1 On the basis of the baseline environment and the description of development outlined in volume 1, chapter 3: Project description of the PEIR, no impacts are proposed to be scoped out of the assessment for other sea users.

14.7 Measures adopted as part of the Mona Offshore Wind Project

14.7.1.1 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 the location or design envelope of the Mona Offshore Wind Project which are integrated into the application for consent. These measures are secured through the consent itself through the description of the development and the parameters secured in the DCO and/or marine licences (referred to as primary mitigation in IEMA, 2016)
- Measures required to meet legislative requirements, or actions that are standard practice used to manage commonly occurring environmental effects and are secured through the DCO requirements and/or the conditions of the marine licences (referred to as tertiary mitigation in IEMA, 2016).

14.7.1.2 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 other sea users. These are outlined in Table 14.14 below. As there is a secured commitment to implementing these measures for the Mona Offshore Wind Project, they have been considered in the assessment presented in section 14.8 below (i.e. the determination of magnitude and therefore significance assumes implementation of these measures).

Table 14.14: Measures adopted as part of the Mona Offshore Wind Project.

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
Primary measures: Measures included as part of the project design		
The Mona Offshore Wind Project intends to apply for a standard 500m safety zone (as per the 2007 Safety Zone regulations cited in the justification column), around each of the wind turbines and OSPs whilst construction/decommissioning works are ongoing. Safety zones of 50m will be sought for incomplete structures where construction/decommissioning activity may be temporarily paused (and therefore the 500m safety zone has lapsed). During the operations and maintenance phase a 500m safety zone shall also be applied for around wind turbines and OSPs undergoing major maintenance.	Safety zones are established in the interests of safety to other sea users receptors, in accordance with The Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007.	Proposed to be secured within the DCO and deemed marine licence.
Tertiary measures: Measures required to meet legislative requirements, or adopted standard industry practice		
Where the Mona Offshore Wind Project cables will be required to cross an active cable, it is intended that a commercial 'crossing agreement' will be entered into with the cable operator. This is a formal arrangement that establishes the responsibilities and obligations of both parties and allows operations to be managed safely.	To reduce potential conflict at cable crossing locations. A crossing agreement based upon the ICPC Recommendation 3-10C 'Telecommunications Cable and Oil Pipeline/Power Cables Crossing Criteria' (ICPC, 2014) will be used for any cable crossings. Where a cable is inactive, the Applicant will consult with the cable operator to ascertain if such a crossing agreement is required.	In line with standard industry practice crossing agreements would be negotiated and agreed with operators as required.
The crossing or laying of marine export cables from the Mona Offshore Wind Project over or adjacent to existing pipelines will be subject to pipeline crossing/proximity agreements between the Mona Offshore Wind Project and the pipeline operators, prior to the start of the construction phase.	To reduce potential conflict at pipeline crossing locations. Such agreements would be based on the Pipeline crossing agreement and proximity agreement pack (Oil and Gas UK, 2021).	In line with standard industry practice crossing/proximity agreements would be negotiated and agreed with operators as required.
Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners.	To ensure other marine users are aware of operations associated with the Mona Offshore Wind Project.	Proposed to be secured within the DCO and deemed marine licence.
Navigational aids and marine charting.	To ensure other marine users are aware of operations and infrastructure associated with the Mona Offshore Wind Project.	Proposed to be secured within the DCO and deemed marine licence.
Consultation with oil and gas operators and other energy infrastructure operators to promote and maximise cooperation between parties and minimise both spatial and temporal interactions between conflicting activities.	Licence blocks will be relinquished and acquired by different operators over the duration of the project life, and oil and gas operations will change according to the project phase. By continued consultation with the oil and gas operators both parties will keep informed of planned activities in order to minimise disruption to either party's operations and to maximise coexistence.	In line with standard industry practice.
Development and adherence to a Cable Specification and Installation Plan which will include cable burial where possible and cable protection as necessary.	To ensure that the cable remains secure, is not a hazard to other sea users and does not risk becoming exposed and damaged by tidal currents.	Proposed to be secured within the DCO and deemed marine licence.
Installation of infrastructure over or adjacent to existing cables or pipelines will be subject to crossing or proximity agreements between the two parties, prior to the start of the construction phase.	To reduce potential conflict at crossing locations. Cable and pipeline crossing/proximity agreements will be based on previously referenced guidance from the ICPC and Oil and Gas UK.	In line with standard industry practice crossing/proximity agreements would be negotiated and agreed with operators as required.

14.8 Assessment of significant effects

14.8.1 Overview

14.8.1.1 The impacts of the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Project have been assessed on other sea users. The potential impacts arising from the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Project are listed in Table 14.13, along with the MDS against which each impact has been assessed.

14.8.1.2 A description of the potential effect on other sea users receptors caused by each identified impact is given below.

14.8.2 Displacement of recreational activities

14.8.2.1 Construction, operations and maintenance, and decommissioning of wind turbines, OSPs and cables may lead to the displacement of recreational activities such as sailing and motor cruising, recreational fishing and inshore water sports. The MDS is represented by the greatest amount of the largest infrastructure and associated minimum spacing and the greatest extent of advisory safety zones, over the longest construction, operations and maintenance, and decommissioning phases. This is summarised in Table 14.13.

Construction phase

Magnitude of impact

14.8.2.2 The installation of infrastructure and the presence of safety zones may result in the displacement of recreational activities from the Mona Array Area and along the Mona Offshore Cable Corridor.

14.8.2.3 The Mona Offshore Wind Project has a construction phase of up to four years. The spatial extent of the Mona Array Area is 449.97km^2. There is also potential for safety zones to extend 500m beyond this area. The impact of safety zones is mostly reversible as once each structure has been installed and commissioned these will be removed. The Mona Array Area is 28.2km from shore (the Anglesey coastline) at its nearest point, and therefore frequency of impact within the Mona Array Area is low. Up to 1,983 installation vessel movements will be required during construction, with 500m rolling advisory safety zones around cable installation vessels.

14.8.2.4 There is low to medium recreational vessel activity in the nearshore area of the Mona Offshore Cable Corridor, with a general boating area and water sports clubs in the vicinity. There is the potential for temporary loss of recreational resource during nearshore/inshore cable installation activities.

14.8.2.5 Underwater sound associated with the construction of the Mona Offshore Wind Project has the potential to affect fish and shellfish, which subsequently has the potential to impact upon recreational fishing. Further information on underwater sound is presented in volume 5, annex 3.1: Underwater sound technical report of the PEIR. Potential impacts on fish and shellfish behaviour associated with underwater sound have been assessed as minor adverse in volume 2, chapter 8: Fish and shellfish ecology of the PEIR.

14.8.2.6 The impact is predicted to be of local spatial extent, short to medium term duration and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.

Sensitivity of the receptor

14.8.2.7 Recreational vessels are able to alter their route, dependent on the target destination. Notices to Mariners will be promulgated regularly during the construction phase, advising of the location and nature of construction works, and information and notices will be posted at the landfall location, ensuring that recreational activities can be planned accordingly.

14.8.2.8 The receptor is deemed to be of low vulnerability, high recoverability and moderate value. The sensitivity of the receptor is therefore, considered to be **low**.

Significance of the effect

14.8.2.9 Overall, it is predicted that the sensitivity of the receptor is considered to be **low** and the magnitude is deemed to be **low**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

Operations and maintenance phase

Magnitude of impact

14.8.2.10 The presence of infrastructure, including wind turbines and OSPs, may result in the displacement of recreational craft and recreational fishing vessels from the Mona Array Area.

14.8.2.11 The Mona Offshore Wind Project has an operations and maintenance phase of up to 35 years. 500m safety zones will be established around infrastructure such as wind turbines during periods of major maintenance. Up to 2,351 operations and maintenance vessel movements may be required each year. As stated in the description of the magnitude of this impact during the construction phase, frequency of impact within the Mona Array Area is low. Recreational vessels will be able to access and transit through the Mona Array Area, so displacement due to the presence of infrastructure will not occur.

14.8.2.12 As previously stated, there is low to medium recreational vessel activity in the nearshore area of the Mona Offshore Cable Corridor (See section 14.4.2.13 and Figure 14.3) and a general boating area and water sports clubs along the shoreline within the regional other sea users study area. During the operations and maintenance phase, repair of up to 1.6km of intertidal cable will occur every five years. For the subtidal export cables, repair of up to 32km of cable will occur in eight events every five years, with reburial of up to 15km of cable happening in one event every five years.

14.8.2.13 The impact is predicted to be of local spatial extent, long term duration, continuous and irreversible over the 35 year operations and maintenance phase of the Mona Offshore Wind Project. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **medium**.

Sensitivity of receptor

14.8.2.14 Recreational vessels are able to alter their route, dependent on the target destination. Notices to Mariners will be promulgated regularly during the operations and maintenance phase, advising of the location and nature of major maintenance works, and information and notices will be posted at the landfall location, ensuring that recreational activities can be planned accordingly.

14.8.2.15 The receptor is deemed to be of low vulnerability, high recoverability and moderate value. The sensitivity of the receptor is therefore, considered to be **low**.

Significance of effect

14.8.2.16 Overall, it is predicted that the sensitivity of the receptor is considered to be **low** and the magnitude is deemed to be **medium**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms.

Decommissioning phase

14.8.2.17 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance (paragraph 14.8.2.9), which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

14.8.3 Increased SSCs and associated deposition affecting recreational diving and bathing sites

14.8.3.1 Construction, operations and maintenance, and decommissioning of the wind turbines, OSPs and cables have the potential to increase SSCs, affecting recreational diving and bathing sites. The MDS is represented by the maximum volume of sediment disturbed and is summarised in Table 14.13.

Construction phase

Magnitude of impact

14.8.3.2 Volume 2, chapter 6: Physical processes of the PEIR considers potential elevations in SSC and deposition to the seabed as a result of a number of activities proposed to occur both within the Mona Array Area and the Mona Offshore Cable Corridor. More specifically these activities are:

- Foundation installation
- Sandwave clearance for foundation and cable installation
- Cable installation via trenching
- Cable removal and reburial.

14.8.3.3 As shown in Figure 14.3, there are two recreational dive sites located within the regional other sea users study area. Throughout the 12-month duration of site preparation for the Mona Offshore Wind Project it is predicted that sandwave clearance for the wind turbine and OSP foundations will produce a total spoil volume of 8,416,621m^3 and sandwave clearance for the cables will produce a total spoil volume of 24,655,575m^3, in addition to removal of up to 72,000m of disused cables.

14.8.3.4 During the 12-month duration of foundation installations, 68 monopiles will be installed at a spoil volume of 13,460m^3 per pile.

14.8.3.5 Cable installation will include:

- 12 months of installing inter-array cables via trenching will create a total spoil volume of 2,250,000m^3
- Four months of installing interconnector cables via trenching will create a total spoil volume of 225,000m^3
- 15 months of installing the subtidal export cables via trenching will create a total spoil volume of 1,620,000m^3.

14.8.3.6 There is potential that sediment plumes from resuspended sediment could impact recreational areas through changes to water quality. Recreational areas would only be affected if the amount of fine sediments suspended in the water or settling in the area are significantly above any background levels or contain any contaminants which would not usually be expected in the area. However, in volume 2, chapter 6: Physical processes of the PEIR it is anticipated that any deposited fine sediments would be subject to redistribution under the prevailing coastal processes.

14.8.3.7 The impact is predicted to be of regional spatial extent, medium term duration, high frequency and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.

Sensitivity of receptor

14.8.3.8 One identified recreational diving site is within the Mona Offshore Cable Corridor and a second is within the regional other sea users study area. One recreational bathing site (Abergele) is also within the Mona Offshore Cable Corridor, with another three within the regional other sea users study area. These sites may be impacted by an increase in SSCs in the short term, although as stated it is anticipated that any deposited fine sediments would be subject to redistribution under the prevailing coastal processes. Figure 14.3 shows other recreational diving and bathing sites in the east Irish Sea region which may provide alternative sites during operations resulting in SSCs, however sea conditions and water depth for accessibility may prevent this.

14.8.3.9 Notices to Mariners will be promulgated regularly during the construction phase, advising of the location and nature of construction works, and information and notices will be posted at the landfall location, ensuring that recreational activities can be planned accordingly.

14.8.3.10 The receptor is deemed to be of moderate vulnerability, moderate recoverability, and low value. The sensitivity of the receptor is therefore, considered to be **low**.

Significance of effect

14.8.3.11 Overall, it is predicted that the sensitivity of the receptor is considered to be **low** and the magnitude is deemed to be **low**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has

been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

Operations and maintenance phase

Magnitude of impact

14.8.3.12 The Mona Offshore Wind Project has an operations and maintenance phase of 35 years. During the operations and maintenance phase, the greatest foreseeable number of cable reburial and repair events is considered to be the MDS for sediment dispersion.

14.8.3.13 From Table 14.13, during these 35 years there would be an average of 7.4km of cables being reburied and 11.65km of cables being repaired every year. This makes it unlikely that there would be regular or significant disturbance to the recreational dive site located within the Mona Offshore Cable Corridor or the site in the regional other sea users study area. It is anticipated that any deposited fine sediments would be subject to redistribution under the prevailing coastal processes.

14.8.3.14 The impact is predicted to be of local spatial extent, short term duration, intermittent and reversible. The magnitude is therefore, considered to be **negligible**.

Sensitivity of receptor

14.8.3.15 One identified recreational diving site is within the Mona Offshore Cable Corridor and a second is within the regional other sea users study area. One recreational bathing site (Abergele) is also within the Mona Offshore Cable Corridor, with another three within the regional other sea users study area. These sites may be impacted by an increase in SSCs in the short term, although as stated it is anticipated that any deposited fine sediments would be subject to redistribution under the prevailing coastal processes. Figure 14.3 shows other recreational diving and bathing sites in the east Irish Sea region which may provide alternative sites during operations resulting in SSCs, however sea conditions and water depth for accessibility may prevent this.

14.8.3.16 Notices to Mariners will be promulgated regularly during the operations and maintenance phase, advising of the location and nature of major maintenance works, and information and notices will be posted at the landfall location, ensuring that recreational activities can be planned accordingly.

14.8.3.17 The receptor is deemed to be of moderate vulnerability, moderate recoverability and low value. The sensitivity of the receptor is therefore considered to be **low**.

Significance of effect

14.8.3.18 Overall, it is predicted that the sensitivity of the receptor is considered to be **low** and the magnitude is deemed to be **negligible**. As set out in Table 14.12, the effect will therefore be of **negligible** significance, which is not significant in EIA terms. The effect has been defined as negligible rather than minor because any effect will be beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Decommissioning phase

14.8.3.19 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance (paragraph 14.8.3.11), which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

14.8.4 Impacts to existing cables or pipelines or restrictions on access to cables or pipelines

14.8.4.1 Construction, operations and maintenance, and decommissioning of wind turbines, OSPs and cables may lead to impacts on existing cables and pipelines, or restrictions on access to cables and pipelines. The MDS is represented by the greatest amount of the largest infrastructure and associated minimum spacing and the greatest extent of safety zones, over the longest construction, operations and maintenance, and decommissioning phases. This is summarised in Table 14.13.

Construction phase

Magnitude of impact

14.8.4.2 The Mona Offshore Wind Project has a construction phase of up to four years. The spatial extent of the Mona Array Area is 449.97km^2. There is also potential for safety zones to extend 500m beyond this area. The impact of safety zones is mostly reversible as once each structure has been installed and commissioned these will be removed.

14.8.4.3 Up to 1,983 installation vessel movements will be required during construction, with 500m rolling advisory safety zones around cable installation vessels. As stated in section 14.4.2.21, seven active cables intersect the Mona Array Area and Mona Offshore Cable Corridor. No pipelines overlap with the local other sea users study area.

14.8.4.4 Infrastructure, safety zones and activities associated with the Mona Offshore Wind Project may restrict access to the existing cables mentioned above, in addition to the planned Havhingsten 1.5 telecomms cable. Cable crossing and proximity agreements as per the ICPC Recommendation 3-10C ‘Telecommunications Cable and Oil Pipeline/Power Cables Crossing Criteria’ will be established with relevant cable operators and will include the ability of a cable operator to access their infrastructure during the construction of the Mona Offshore Wind Project as far as practical.

14.8.4.5 The impact is predicted to be of regional spatial extent, short to medium term duration, high frequency and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.

Sensitivity of receptor

14.8.4.6 Restriction of access to an active cable for inspection and maintenance activities could be critical to the operator of that cable. However, crossing and proximity agreements are common across the UKCS and there are established mechanisms for controlling the level of impact to both parties, in the form of the ICPC Recommendation 3-10C guidance. No active pipelines exist within the local other sea users study area.

14.8.4.7 The receptor is deemed to be of moderate vulnerability, moderate recoverability and high value. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of effect

14.8.4.8 Overall, it is predicted that the sensitivity of the receptor is considered to be **medium** and the magnitude is deemed to be **low**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms.

Operations and maintenance phase

Magnitude of impact

14.8.4.9 As described in paragraph 14.8.4.3, there are seven active cables which intersect either the Mona Array Area or the Mona Offshore Cable Corridor. Infrastructure, safety zones and activities associated with the Mona Offshore Wind Project may restrict access to these existing cables.

14.8.4.10 Loss of access to cables associated with any temporary safety zones during the operations and maintenance phase is considered to be limited in extent and infrequent. Loss of access to cables associated with the presence of structures would be considered in the crossing/proximity agreements to the extent that such a scenario would not be an impediment to operations.

14.8.4.11 Crossing and proximity agreements will be established with relevant cable operators, to minimise the potential for any impact in accordance with recognised industry best practice. These agreements will ensure close communication and planning between both parties to ensure disruption of activities is minimised.

14.8.4.12 The impact is predicted to be of local spatial extent, short term duration, intermittent and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **low**.

Sensitivity of receptor

14.8.4.13 Major maintenance activities associated with the Mona Offshore Wind Project will be publicised via Notices to Mariners. The terms of the crossing and proximity agreements will ensure communication between both parties and that loss of access is minimised.

14.8.4.14 Restriction of access to an active cable for inspection and maintenance activities could be critical to the operator of that cable. However, crossing and proximity agreements are common across the UKCS and there are established mechanisms for controlling the level of impact to both parties in the form of the guidance referenced in paragraph 14.8.4.4.

14.8.4.15 The receptor is deemed to be of moderate vulnerability, moderate recoverability and high value. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of effect

14.8.4.16 Overall, it is predicted that the sensitivity of the receptor is considered to be **medium** and the magnitude is deemed to be **low**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms.

Decommissioning phase

14.8.4.17 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance (paragraph 14.8.4.8), which is not significant in EIA terms.

14.8.5 Increased SSCs and associated deposition affecting aggregate extraction areas

14.8.5.1 Construction, operations and maintenance, and decommissioning of the wind turbines, OSPs and cables have the potential to increase SSCs, affecting aggregate extraction areas. The MDS is represented by the maximum volume of sediment disturbed and is summarised in Table 14.13.

Construction phase

Magnitude of impact

14.8.5.2 Volume 2, chapter 6: Physical processes of the PEIR considers potential elevations in SSCs and deposition to the seabed as a result of a number of activities proposed to occur both within the Mona Array Area and the Mona Offshore Cable Corridor. More specifically these activities are:

- Foundation installation
- Sandwave clearance for foundation and cable installation
- Cable installation via trenching
- Cable removal and reburial.

14.8.5.3 As shown in Figure 14.2, there is one aggregate extraction site in the east of the regional other sea users study area, Liverpool Bay 457 operated by Westminster Gravels Ltd. located 4.4km from the Mona Array Area. Throughout the 12-month duration of site preparation for the Mona Offshore Wind Project, it is predicted that sandwave clearance for the wind turbine and OSP foundations will produce a total spoil volume of 8,416,621m^3 and sandwave clearance for the cables will produce a total spoil volume of 24,655,575m^3, in addition to removal of up to 46,000m of disused cables.

14.8.5.4 During the 12-month duration of foundation installations, 68 monopiles will be installed at a spoil volume of 13,460m^3 per pile.

14.8.5.5 Cable installation will include:

- 12 months of installing inter-array cables via trenching will create a total spoil volume of 2,250,000m^3
- Four months of installing interconnector cables via trenching will create a total spoil volume of 225,000m3
- 15 months of installing the subtidal export cables via trenching will create a total spoil volume of 1,620,000m^3.

14.8.5.6 It is important to note that there are no aggregate extraction areas within the Mona Array Area or the Mona Offshore Cable Corridor. Whilst the numbers presented in the previous paragraph are large, they equate to the total volume for the entire Mona Array

Area and Mona Offshore Cable Corridor. There is potential that sediment plumes from resuspended sediment could impact the aggregate area through sedimentation and the potential that this could affect the quality of aggregate (coarse sand deposits). Aggregate would only be affected if the amount the sediment fines that are settling in the area are significantly above any background levels or contain any contaminants which would not usually be expected in the aggregate area. There is no evidence of fine-grained sand within the Liverpool Bay 457 dredging area, although it seems likely that it does pass through it. This indicates that present-day tidal currents and waves are capable of carrying fine grained sand across the area (Sefton Council executive report, 2007). Therefore, given this characteristic and the overlap with the regional other sea users study area, only a very small proportion of the total spoil volume would settle within Liverpool Bay 457. It is also anticipated that any deposited fine sediments would be subject to redistribution under the prevailing coastal processes.

14.8.5.7 The impact is predicted to be of regional spatial extent, medium term duration, high frequency and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.

Sensitivity of receptor

14.8.5.8 Westminster Gravels Ltd dredge coarse sand deposits from the Liverpool Bay 457 dredging area, a resource of value to the regional economy. Dredging operators are adaptable as they are able, to some extent, to screen out unwanted fine sediment load. Furthermore, it is known that the existing tidal currents and waves are capable of carrying fine grained sand across the area (Sefton Council executive report, 2007).

14.8.5.9 The receptor is deemed to be of low vulnerability, moderate recoverability and moderate value. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of effect

14.8.5.10 Overall, it is predicted that the sensitivity of the receptor is considered to be **medium** and the magnitude is deemed to be **low**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms.

Operations and maintenance phase

Magnitude of impact

14.8.5.11 The Mona Offshore Wind Project has an operations and maintenance phase of 35 years. During the operations and maintenance phase, the greatest foreseeable number of cable reburial and repair events is considered to be the MDS for sediment dispersion.

14.8.5.12 Table 14.13 states that over the operations and maintenance phase there would be an average of 7.4km of cable reburial and 11.65km of cable repair potentially needed each year. It is anticipated that any deposited fine sediments would be subject to redistribution under the prevailing coastal processes. Liverpool Bay 457 is not located close to the Mona Offshore Cable Corridor (where a lot of this reburial would occur).

14.8.5.13 The impact is predicted to be of local spatial extent, short term duration, intermittent and reversible. The magnitude is therefore, considered to be **negligible**.

Sensitivity of receptor

14.8.5.14 Westminster Gravels Ltd dredge coarse sand deposits from the Liverpool Bay 457 dredging area, a resource of value to the regional economy. Dredging operators are adaptable as they are able, to some extent, to screen out unwanted fine sediment load. Furthermore, it is known that the existing tidal currents and waves are capable of carrying fine grained sand across the area (Sefton Council executive report, 2007).

14.8.5.15 The receptor is deemed to be of low vulnerability, moderate recoverability and moderate value. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of effect

14.8.5.16 Overall, it is predicted that the sensitivity of the receptor is considered to be **medium** and the magnitude is deemed to be **negligible**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

Decommissioning phase

14.8.5.17 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance (paragraph 14.8.5.10), which is not significant in EIA terms.

14.8.6 Alterations to sediment transport pathways affecting aggregate extraction areas

14.8.6.1 The construction, operations and maintenance, and decommissioning of the wind turbines, OSPs and cables has the potential to alter sediment transport pathways, affecting aggregate extraction areas. The MDS is represented by the greatest in-water column blockage to influence tidal flow and wave climate and is summarised in Table 14.13.

Construction phase

Magnitude of impact

14.8.6.2 During the construction phase any alterations to sediment transport pathways affecting aggregate extraction areas will be gradual as the presence of infrastructure increases reaching the MDS outlined below in the operations and maintenance phase.

14.8.6.3 As shown in Figure 14.2, there is one aggregate extraction site in the east of the regional other sea users study area, Liverpool Bay 457. This site is operated by Westminster Gravels Ltd. and located 4.4km from the Mona Array Area. It is important to note that there are no aggregate extraction areas within the Mona Array Area or the Mona Offshore Cable Corridor.

14.8.6.4 The impact is predicted to be of local spatial extent, short term duration, high frequency and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **negligible.**

Sensitivity of receptor

14.8.6.5 Westminster Gravels Ltd dredge coarse sand deposits from the Liverpool Bay 457 dredging area, a resource of value to the regional economy. Dredging operators are adaptable as they are able, to some extent, to screen out unwanted fine sediment load. Furthermore, it is known that the existing tidal currents and waves are capable of carrying fine grained sand across the area (Sefton Council executive report, 2007).

14.8.6.6 The receptor is deemed to be of low vulnerability, moderate recoverability and moderate value. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of effect

14.8.6.7 Overall, it is predicted that the sensitivity of the receptor is considered to be **medium** and the magnitude is deemed to be **negligible**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

Operations and maintenance phase

Magnitude of impact

14.8.6.8 During the 35-year operations and maintenance phase, the greatest in-water column blockage includes a total footprint of 10,816m^2 per wind turbine for 68 wind turbines, and a total footprint of 6,241m^2 per OSP for four OSPs.

14.8.6.9 As shown in Figure 14.2, there is one aggregate extraction site in the east of the regional other sea users study area, Liverpool Bay 457. This site is operated by Westminster Gravels Ltd and located 4.4km from the Mona Array Area. It is important to note that there are no aggregate extraction areas within the Mona Array Area or the Mona Offshore Cable Corridor.

14.8.6.10 The impact is predicted to be of regional spatial extent, long term duration, low frequency and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low.**

Sensitivity of receptor

14.8.6.11 Westminster Gravels Ltd dredge coarse sand deposits from the Liverpool Bay 457 dredging area, a resource of value to the regional economy. Dredging operators are adaptable as they are able, to some extent, to screen out unwanted fine sediment load. Furthermore, it is known that the present-day tidal currents and waves are capable of carrying fine grained sand across the area (Sefton Council executive report, 2007).

14.8.6.12 The receptor is deemed to be of low vulnerability, moderate recoverability and moderate value. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of effect

14.8.6.13 Overall, it is predicted that the sensitivity of the receptor is considered to be **medium** and the magnitude is deemed to be **low**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms.

Decommissioning phase

14.8.6.14 The effects of decommissioning activities are expected to be the same or similar to the effects from construction, with the difference that scour and cable protection may remain *in situ* during decommissioning and continue to influence tidal currents. Otherwise, during the decommissioning phase any alterations to sediment transport pathways affecting aggregate extraction areas would gradually decrease from the operational MDS as structures are removed and cut below the seabed. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

14.8.7 Reduction or restriction of oil and gas exploration activities (including surveys, drilling and the placement of infrastructure) within the Mona Array Area

14.8.7.1 The construction, operations and maintenance, and decommissioning of wind turbines, OSPs and cables may lead to impacts and restrictions on oil and gas activities within the Mona Array Area. The MDS is represented by the greatest amount of the largest infrastructure and associated minimum spacing and the greatest extent of safety zones, over the longest construction, operations and maintenance and decommissioning phases. This is summarised in Table 14.13.

Construction phase

Magnitude of impact

14.8.7.2 The Mona Offshore Wind Project has a construction phase of up to four years. The spatial extent of the Mona Array Area is 449.97km^2, which is not large in the context of the east Irish Sea. There is also potential for safety zones to extend 500m beyond this area. The impact of safety zones is mostly reversible as once each structure has been installed and commissioned these will be removed. The Mona Array Area is 28.2km from shore (the Anglesey coastline) at its nearest point, and therefore frequency of impact within the Mona Array Area is low.

14.8.7.3 Up to 1,983 installation vessel movements will be required during construction, with 500m rolling advisory safety zones around cable installation vessels. Up to 107 wind turbines will be installed during construction with a minimum spacing of 1,000m between rows of wind turbines and 875m between wind turbines in a row. Up to four OSPs will also be installed.

14.8.7.4 As infrastructure is installed, the area available for seismic surveys and drilling will be restricted, and the presence of safety zones around infrastructure and vessels may also further restrict the ability to use certain alternative survey methods.

14.8.7.5 The impact is predicted to be of local spatial extent, long term duration, high frequency and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **medium**.

Sensitivity of receptor

14.8.7.6 As shown in Figure 14.5, there are no currently licenced blocks within the local other sea users study area. There is potential for blocks to become licenced in future, for example through the 33rd Oil and Gas Licensing Round, but the assessment of this potential impact is complicated by a degree of uncertainty.

14.8.7.7 The receptor is deemed to be of negligible vulnerability, moderate recoverability and negligible value. The sensitivity of the receptor is therefore, considered to be **negligible.**

Significance of effect

14.8.7.8 Overall, it is predicted that the sensitivity of the receptor is considered to be **negligible** and the magnitude is deemed to be **medium**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

Operations and maintenance phase

Magnitude of impact

14.8.7.9 The Mona Offshore Wind Project has an operations and maintenance phase of up to 35 years. 500m safety zones will be established around infrastructure such as wind turbines during periods of major maintenance. Up to 1,256 operations and maintenance vessel movements may be required each year, with up to 107 wind turbines and four OSPs present.

14.8.7.10 Due to these vessel movements, the presence of this infrastructure and the safety zones, the area available for seismic surveys, alternative surveys and drilling will be restricted.

14.8.7.11 The impact is predicted to be of local spatial extent, long term duration, continuous and of low reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **medium**.

Sensitivity of receptor

14.8.7.12 As shown in Figure 14.5, there are no currently licenced blocks within the local other sea users study area. There is potential for blocks to become licenced in future, for example through the 33rd Oil and Gas Licensing Round, but the assessment of this potential impact is complicated by a degree of uncertainty.

14.8.7.13 The receptor is deemed to be of negligible vulnerability, moderate recoverability and negligible value. The sensitivity of the receptor is therefore, considered to be **negligible.**

Significance of effect

14.8.7.14 Overall, it is predicted that the sensitivity of the receptor is considered to be **negligible** and the magnitude is deemed to be **medium**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

Decommissioning phase

14.8.7.15 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. As set out in Table 14.12, the effect is therefore, considered to be of **minor adverse** significance (paragraph 14.8.7.8), which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

14.8.8 Interference with the performance of REWS located on oil and gas platforms

14.8.8.1 The physical presence of wind turbines and OSPs has the potential to interfere with the performance of REWS, through effects such as high radar returns, shadowing (effectively a shadow is cast by the wind turbines which creates a region where the radar beam is unable to fully illuminate an object), increased number of detections and false alarm/track generation. This system is sometimes used by oil and gas operators as an integral part of their anti-collision safety systems for their offshore platforms.

14.8.8.2 During the 35 years of the operations and maintenance phase of the Mona Offshore Wind Project, up to 107 wind turbines will be present in the Mona Array Area, with a minimum spacing of 1,000m between rows of wind turbines and 875m between wind turbines in a row. There will also be up to four OSPs. The impact is limited to the operations and maintenance phase as it is when the structures are constructed and operating that the interference is possible.

14.8.8.3 Consultation with stakeholders is ongoing to determine the magnitude of this impact and the sensitivity of receptors. This impact will be fully assessed in the Environmental Statement.

14.8.9 Interference with offshore microwave fixed communication links

14.8.9.1 The physical presence of wind turbines and OSPs within the Mona Array Area may cause offshore microwave fixed communication links between offshore installations to be unable to provide an effective service.

14.8.9.2 During the 35 years of the operations and maintenance phase of the Mona Offshore Wind Project, up to 107 wind turbines will be present in the Mona Array Area, with a minimum spacing of 1,000m between rows of wind turbines and 875m between wind turbines in a row. There will also be up to four OSPs. The impact is limited to the operations and maintenance phase as it is when the structures are constructed and operating that the interference is possible.

14.8.9.3 Consultation with stakeholders is ongoing to determine the magnitude of this impact and the sensitivity of receptors. This impact will be fully assessed in the Environmental Statement.

14.8.10 Future monitoring

14.8.10.1 No other sea users monitoring to test the predictions made within the impact assessment is considered necessary.

14.9 Cumulative Effects Assessment methodology

14.9.1 Methodology

14.9.1.1 The Cumulative Effects Assessment (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 PEIR). 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.

14.9.1.2 The other sea users CEA methodology has followed the methodology set out in volume 1, chapter 5: EIA methodology of the PEIR. 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.

14.9.1.3 The tiered approach uses the following categorisations:

- 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
  - Identified in a relevant development plan
  - Identified in other plans and programmes.

14.9.1.4 This tiered approach is adopted to provide a clear assessment of the Mona Offshore Wind Project alongside other projects, plans and activities.

14.9.1.5 The specific projects, plans and activities scoped into the CEA, are outlined in Table 14.15 and shown in Figure 14.7.

Table 14.15: List of other projects, plans and activities considered within the CEA for other sea users.

Project/Plan	Status	Distance from the Mona Array Area (km)	Distance from the Mona Offshore 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 Môr	Submitted	12.2	3.6	Awel y Môr offshore wind farm, planning to comprise up to 50 wind turbines.	Anticipated to commence in 2026	1 January 2030 to 1 January 2055	Project construction phase overlaps with the Mona Offshore Wind Project proposed construction phase. Project operational phase overlaps with the Mona Offshore Wind Project proposed operations and maintenance phase.
Liverpool 2 and River Mersey Approach Channel Dredging	Operational	15.5	22.4	Dredging activities and dredge disposal sites	N/A	1 July 2019 to 30 June 2028	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction phase.
Mersey Channel and River Maintenance Dredge Disposal Renewal	Operational	15.6	22.5	Dredging activities and dredge disposal sites	N/A	22 October 2021 to 22 October 2031	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction and operations and maintenance phases.
Conwy River Dredging	Operational	33.9	7.7	Dredging activities and dredge disposal sites	N/A	10 August 2022 to 10 August 2037	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction and operations and maintenance phases.
Douglas Harbour Dredging, Isle of Man	Operational	43.1	67.0	Dredging activities and dredge disposal sites	N/A	16 May 2016 to 16 May 2031	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction and operations and maintenance phases.
Dee River Dredging	Operational	46.1	26.7	Dredging activities and dredge disposal sites	N/A	10 August 2022 to 10 August 2037	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction and operations and maintenance phases.
Castletown Bay Dredging, Isle of Man	Operational	47.0	66.8	Dredging activities and dredge disposal sites	N/A	10 August 2022 to 10 August 2037	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction and operations and maintenance phases.
Port of Barrow maintenance dredging disposal licence	Operational	47.7	58.1	Dredging activities and dredge disposal sites	N/A	13 September 2016 to 12 September 2026	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction phase.
Liverpool Marina Maintenance Dredging – Sustainable Relocation of Dredged Material to the River Mersey	Operational	53.6	42.0	Dredging activities and dredge disposal sites	N/A	19 February 2021 to 31 March 2030	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction and operations and maintenance phases.
RNLI Regional Maintenance	Operational	54.8	31.8	Dredging activities and dredge disposal sites	N/A	18 April 2019 to 17 April 2029	Project operational phase overlaps with the Mona Offshore Wind Project proposed construction phase.
Tier 2							
Morgan Generation Assets	Pre-application	5.5	32.9	Morgan Offshore Wind Project Generation Assets	1 January 2028 to 31 December 2029	1 January 2030 to 31 December 2065	Project construction phase overlaps with the Mona Offshore Wind Project proposed construction phase. Project operational phase overlaps with the Mona Offshore Wind Project proposed operations and maintenance phase.
Morecambe Offshore Windfarm Generation Assets	Pre-application	8.9	21.7	Morecambe Offshore Windfarm Generation Assets	1 January 2028 to 31 December 2029	1 January 2030 to 31 December 2065	Project construction phase overlaps with the Mona Offshore Wind Project proposed construction phase. Project operational phase overlaps with the Mona Offshore Wind Project proposed operations and maintenance phase.

Project/Plan	Status	Distance from the Mona Array Area (km)	Distance from the Mona Offshore Cable Corridor (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Morgan and Morecambe Offshore Wind Farms Transmission Assets	Pre-application	8.9	21.5	Morgan and Morecambe Offshore Wind Farms Transmission Assets	1 January 2028 to 31 December 2029	1 January 2030 to 31 December 2065	Project construction phase overlaps with the Mona Offshore Wind Project proposed construction phase. Project operational phase overlaps with the Mona Offshore Wind Project proposed operations and maintenance phase.
Tier 3							
MaresConnect	Permitted	14.7	0.0	MaresConnect is a proposed 750MW subsea and underground electricity interconnector system linking the electricity grids in Ireland and Great Britain.	N/A	N/A	N/A

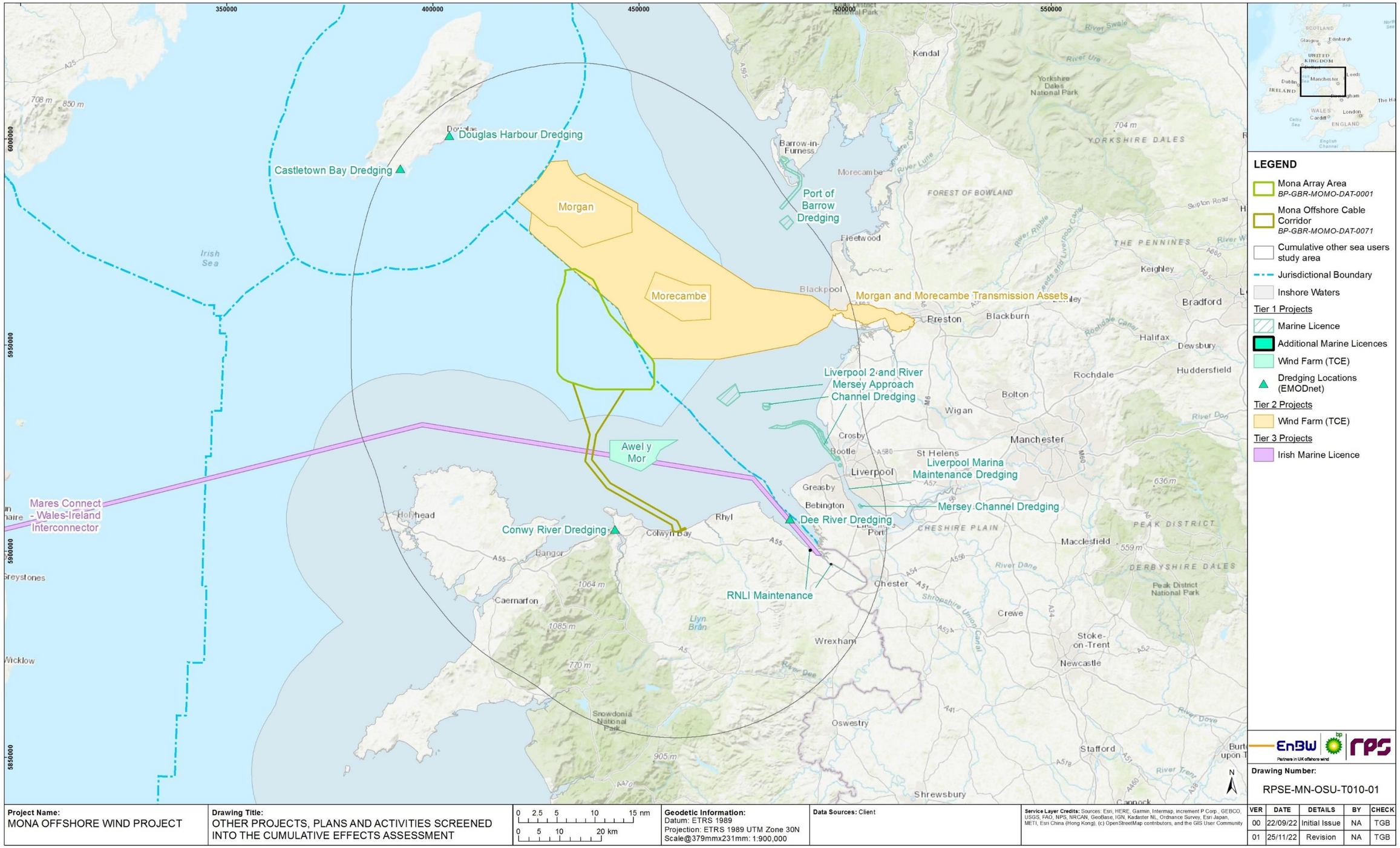

Figure 14.7: Other projects, plans and activities screened into the CEA for other sea users.

14.9.2 Maximum Design Scenario

14.9.2.1 The MDSs identified in Table 14.16 have been selected as the design options 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 are based on the Project Design Envelope provided in volume 1, chapter 3: Project description of the PEIR as well as the information available on other projects and plans, in order to inform an MDS. Effects of greater adverse significance are not predicted to arise if the development scenario to be taken forward in the final design scheme is within the Project Design Envelope.

14.9.2.2 The range of potential cumulative impacts identified in Table 14.16 below is a subset of those considered for the Mona Offshore Wind Project alone assessment (Table 14.13). This is for one of two reasons:

- The potential impacts identified and assessed for the Mona Offshore Wind Project alone are relatively localised and have limited, or no, potential to interact with similar impacts associated with other projects
- The potential significance of impact has been assessed as negligible for the Mona Offshore Wind Project alone and therefore has limited or no potential to interact with similar impacts associated with other projects.

14.9.2.3 Of the impacts set out in Table 14.13, the following have not been included in the CEA:

- Displacement of recreational activities during the construction and decommissioning phases is considered to be a localised effect, with no potential to interact with similar impacts associated with other projects
- Increased SSCs and associated deposition affecting recreational diving and bathing sites is considered to be either of minor or negligible adverse effect, and impacts will be localised with limited potential to interact with similar impacts associated with other projects
- Impacts to existing cables or pipelines or restrictions on access to cables or pipelines is considered to be a localised effect, with no potential to interact with similar impacts associated with other projects
- Reduction or restriction of oil and gas exploration activities (including surveys, drilling and the placement of infrastructure) within the Mona Array Area is considered to be a localised effect, with no potential to interact with similar impacts associated with other projects.

Table 14.16: Maximum design scenario considered for the assessment of potential cumulative effects on other sea users.

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

Potential cumulative effect	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Displacement of recreational activities	×	✓	×	MDS as described for the Mona Offshore Wind Project (Table 14.13) assessed cumulatively with the following other projects/plans: **Tier 1** • Awel y Môr **Tier 2** • Morecambe Offshore Windfarm Generation Assets • Morgan Generation Assets • Morgan and Morecambe Offshore Wind Farms Transmission Assets.	Outcome of the CEA will be greatest when the greatest amount of the largest infrastructure and associated minimum spacing and the greatest extent of advisory safety zones are considered in-combination. Plans and projects which have the potential to displace recreational activities have been included.
Increased SSCs and associated deposition affecting aggregate extraction areas	✓	✓	✓	MDS as described for the Mona Offshore Wind Project (Table 14.13) assessed cumulatively with the following other projects/plans: **Tier 1** • Liverpool Marina Maintenance Dredging – Sustainable Relocation of Dredged Material to the River Mersey • Liverpool 2 and River Mersey Approach Channel Dredging • Mersey Channel and River Maintenance Dredge Disposal Renewal • Castletown Bay Dredging, Isle of Man • Douglas Harbour Dredging, Isle of Man • Conwy River Dredging • Dee River Dredging • Port of Barrow maintenance dredging disposal licence • RNLI Regional Maintenance • Awel y Môr **Tier 2** • Morecambe Offshore Windfarm Generation Assets • Morgan Generation Assets • Morgan and Morecambe Offshore Wind Farms Transmission Assets. **Tier 3** • MaresConnect.	Outcome of the CEA will be greatest when the greatest number of other plans and projects are considered in-combination. Activities from plans and projects that potentially increase suspended sediment concentrations during the temporal overlap with the Mona Offshore Wind Project phases have been included as these may create a cumulative impact on aggregate extraction areas.
Alterations to sediment transport pathways affecting aggregate extraction areas	✓	✓	✓	MDS as described for the Mona Offshore Wind Project (Table 14.13) assessed cumulatively with the following other projects/plans: **Tier 1** • Awel y Môr **Tier 2** • Morecambe Offshore Windfarm Generation Assets • Morgan Generation Assets.	Outcome of the CEA will be greatest when the greatest number of other plans and projects are considered in-combination. Activities from plans and projects that potentially alter sediment transport pathways during the temporal overlap with the Mona Offshore Wind Project phases have been included as these may create a cumulative impact on aggregate extraction areas.

Potential cumulative effect	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Interference with the performance of REWS located on oil and gas platforms	×	✓	×	**Tier 1** • Awel y Môr **Tier 2** • Morecambe Offshore Windfarm Generation Assets • Morgan Generation Assets.	Outcome of the CEA will be greatest when the greatest number of other plans and projects are considered in-combination. The maximum number of structures is the MDS.
Interference with offshore microwave fixed communication links	×	✓	×	**Tier 1** • Awel y Môr **Tier 2** • Morecambe Offshore Windfarm Generation Assets • Morgan Generation Assets.	Outcome of the CEA will be greatest when the greatest number of other plans and projects are considered in-combination. The maximum number of structures is the MDS.

14.10 Cumulative Effects Assessment

14.10.1.1 A description of the significance of cumulative effects upon other sea users receptors arising from each identified impact is given below.

14.10.1 Displacement of recreational activities

14.10.1.1 The presence of wind turbines, OSPs and cables and the advisory safety zones associated with these may lead to the displacement of recreational activities such as sailing and motor cruising, recreational fishing and inshore water sports. Should the Mona Offshore Wind Project exist at the same as the other projects cited, there is the potential for a cumulative effect.

Tier 1 and Tier 2

Operations and maintenance phase

Magnitude of impact

14.10.1.2 The magnitude of the displacement of recreational activities arising from the presence of infrastructure associated with the Mona Offshore Wind Project during the operations and maintenance phase has been assessed as medium for the Mona Offshore Wind Project alone, as described in paragraph 14.8.2.16.

14.10.1.3 The operations and maintenance phase of the Mona Offshore Wind Project coincides with the operational phase of Awel y Môr. The proposed Awel y Môr development will comprise up to 50 wind turbines. Combined with the MDS of 107 wind turbines for the Mona Offshore Wind Project there will be a cumulative effect on recreational activities due to displacement.

14.10.1.4 The proposed developments of the Morgan Generation Assets and the Morecambe Offshore Windfarm Generation Assets, comprising up to 107 and 40 wind turbines respectively, will be in operation during the operations and maintenance phase of the Mona Offshore Wind Project. The Morgan Generation Assets are 5.5km from the Mona Array Area and 32.9km from the Mona Offshore Cable Corridor, while the Morecambe Offshore Windfarm Generation Assets are 8.9km from the Mona Array Area and 21.7km from the Mona Offshore Cable Corridor. At the same time, the Morgan and Morecambe Offshore Wind Farms Transmission Assets will be in operation during the operations and maintenance phase of the Mona Offshore Wind Project.

14.10.1.5 The impact is predicted to be of regional spatial extent, long term duration, continuous and irreversible over the 35-year operations and maintenance phase of the Mona Offshore Wind Project. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **medium**.

Sensitivity of the receptor

14.10.1.6 The sensitivity of the receptor has been assessed in paragraph 14.8.2.15. It is considered to be **low**.

Significance of effect

14.10.1.7 Overall, the magnitude of the cumulative impact is deemed to be **medium** and the sensitivity of the receptor is considered to be **low**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

14.10.2 Increased SSCs and associated deposition affecting aggregate extraction areas

14.10.2.1 Increased SSCs may arise due to seabed preparation involving sandwave clearance, the installation of the wind turbines and OSP foundations, the installation and/or maintenance of cables and associated decommissioning activities. Should the other projects cited take place concurrently with the Mona Offshore Wind Project (construction or operations and maintenance), there is the potential for a cumulative effect of increased turbidity levels impacting on aggregate extraction areas.

Tier 1, Tier 2 and Tier 3

Construction phase

Magnitude of impact

14.10.2.2 The magnitude of the increase in SSCs and associated deposition arising from activities during the construction phase has been assessed as low for the Mona Offshore Wind Project alone, as described in paragraph 14.8.5.7 and volume 2, chapter 6: Physical processes of the PEIR.

14.10.2.3 The construction phase of the Mona Offshore Wind Project coincides with the operational phases of all dredging and disposal projects presented in Table 14.15. If offshore cable installation and sandwave clearance associated with the Mona Offshore Wind Project and dredging and disposal coincide, both resultant plumes would be advected on the tidal currents; they would travel in parallel, and not towards one another. They are unlikely to interact if offshore cable installation coincides with the use of licensed dredging and disposal sites.

14.10.2.4 As per Figure 14.7, none of these dredging and disposal projects are located in close proximity to the Mona Offshore Wind Project. The dredging and disposal activities carried out at these sites are also maintenance-related, and therefore are likely to be small-scale which reduces the likelihood and significance of any cumulative effect. As per volume 6, annex 6.1: Physical processes technical report of the PEIR, both the residual current and levels of potential sediment transport are low within the Mona Array Area, also reducing the likelihood and significance of any cumulative effect.

14.10.2.5 The construction phase of the Mona Offshore Wind Project also coincides with the construction phase of Awel y Môr. This project is in close proximity with the Mona Offshore Cable Corridor, and interaction of SSC plumes on spring tide events may occur should trenching activities be undertaken simultaneously. However, as per volume 2, chapter 6: Physical processes of the PEIR, SSC plumes would likely reach background levels before overlapping with the Awel y Môr array area.

14.10.2.6 The Morgan Generation Assets, the Morecambe Offshore Windfarm Generation Assets and the Morgan and Morecambe Offshore Wind Farms Transmission Assets construction phases will also overlap with the Mona Offshore Wind Project construction phase. Construction activities from these other projects may result in increased SSC, but these activities would be of limited spatial extent and frequency and therefore unlikely to interact with sediment plumes from the Mona Offshore Wind Project.

14.10.2.7 Finally, the construction phase of the Mona Offshore Wind Project may overlap with the construction or operational phase of MaresConnect. This project overlaps with the Mona Offshore Cable Corridor, and similarly to Awel y Môr interaction of SSC plumes on spring tide events may occur should trenching activities be undertaken simultaneously. The concentration of suspended sediment reduces significantly moving further from activity so the potential for overlap of resultant plumes with MaresConnect would be low.

14.10.2.8 As described in section 14.10.2.5, SSC plumes are localised to within the immediate vicinity of the construction activity and returning to background levels, therefore travelling on the tide in parallel will most likely avoid interception of the most concentrated suspended sediment part of each plume. As per volume 6, annex 6.1: Physical processes technical report of the PEIR, both the residual current and levels of potential sediment transport are low within the Mona Array Area, also reducing the likelihood and significance of any cumulative effect.

14.10.2.9 The cumulative effect is predicted to be of regional spatial extent, medium term duration, intermittent and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.

Sensitivity of the receptor

14.10.2.10 The sensitivity of the receptor has been assessed in paragraph 14.8.5.9. It is considered to be **medium**.

Significance of effect

14.10.2.11 Overall, the magnitude of the cumulative impact is deemed to be **low** and the sensitivity of the receptor is considered to be **medium**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms.

Operations and maintenance phase

Magnitude of impact

14.10.2.12 The magnitude of the increase in suspended sediment concentrations and associated deposition arising from activities during the operations and maintenance phase has been assessed as negligible for the Mona Offshore Wind Project alone, as described in paragraph 14.8.5.13 and volume 2, chapter 6: Physical processes of the PEIR.

14.10.2.13 The operations and maintenance phase of the Mona Offshore Wind Project coincides with the operational phases of all of the dredging and disposal projects presented in Table 14.15 other than the Liverpool 2 and River Mersey Approach Channel Dredging and RNLI Regional maintenance. If activities such as cable repair and reburial associated with the Mona Offshore Wind Project and dredging and disposal coincided, both resultant plumes would be advected on the tidal currents, they would travel in parallel, and not towards one another. They are unlikely to interact if cable repair and reburial coincides with the use of licensed dredging and disposal sites.

14.10.2.14 As per Figure 14.7, none of these dredging and disposal projects are located in close proximity to the Mona Offshore Wind Project. The dredging and disposal activities carried out at these sites are also maintenance-related, and therefore are likely to be small-scale which reduces the likelihood and significance of any cumulative effect. As per volume 6, annex 6.1: Physical processes technical report of the PEIR, both the residual current and levels of potential sediment transport are low within the Mona Array Area, also reducing the likelihood and significance of any cumulative effect.

14.10.2.15 The operations and maintenance phase of the Mona Offshore Wind Project also coincides with the operational phase of Awel y Môr. As explained in paragraph 14.10.2.5, cumulative effects arising from construction activities from this project is likely to be low. Maintenance activities are both intermittent and a smaller scale than that of the construction phase and therefore any potential cumulative impacts are less likely to occur and be on a smaller scale.

14.10.2.16 The Morgan Generation Assets, the Morecambe Offshore Windfarm Generation Assets and the Morgan and Morecambe Offshore Wind Farms Transmission Assets operations and maintenance phases will also overlap with the Mona Offshore Wind Project operations and maintenance phase. As outlined in paragraph 14.10.2.15, maintenance activities are both intermittent and a smaller scale than that of the construction phase and therefore any potential cumulative impacts are less likely to occur and be on a smaller scale.

14.10.2.17 Similarly to the above, the operations and maintenance phase of the Mona Offshore Wind Project may coincide with the construction, operational or decommissioning phases of MaresConnect. Maintenance activities are both intermittent and a smaller scale than that of the construction phase and therefore any potential cumulative impacts are less likely to occur and be on a smaller scale.

14.10.2.18 As per volume 6, annex 6.1: Physical processes technical report of the PEIR, both the residual current and levels of potential sediment transport are low within the Mona Array Area, also reducing the likelihood and significance of any cumulative effect.

14.10.2.19 The cumulative effect is predicted to be of regional spatial extent, long term duration, low frequency and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **negligible**.

Sensitivity of the receptor

14.10.2.20 The sensitivity of the receptor has been assessed in paragraph 14.8.5.9. It is considered to be **medium**.

Significance of effect

14.10.2.21 Overall, the magnitude of the cumulative impact is deemed to be **negligible** and the sensitivity of the receptor is considered to be **medium**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

Decommissioning phase

Significance of effect

14.10.2.22 The effects of decommissioning activities are expected to be the same or similar to the effects from construction. As set out in Table 14.12, the effect is therefore considered to be of **minor adverse** significance (paragraph 14.10.2.11), which is not significant in EIA terms.

14.10.3 Alterations to sediment transport pathways affecting aggregate extraction areas

14.10.3.1 The construction, operations and maintenance, and decommissioning of the wind turbines, OSPs and cables has the potential to alter sediment transport pathways, affecting aggregate extraction areas. The MDS is represented by the greatest in-water column blockage to influence tidal flow and wave climate. The presence of other infrastructure at the same time as the Mona Offshore Wind Project may have a cumulative effect on sediment transport pathways and therefore aggregate extraction areas.

Tier 1 and Tier 2

Construction phase

Magnitude of impact

14.10.3.2 The magnitude of effect on sediment transport pathways arising from activities during the construction phase has been assessed as negligible for the Mona Offshore Wind Project alone, as described in paragraph 14.8.6.4.

14.10.3.3 The construction phase of the Mona Offshore Wind Project coincides with the construction phase of Awel y Môr. During the construction phases of both projects any alterations to sediment transport pathways affecting aggregate extraction areas will be gradual as the presence of infrastructure increases reaching the MDS.

14.10.3.4 The Morgan Generation Assets and Morecambe Offshore Windfarm Generation Assets construction phases will also overlap with the Mona Offshore Wind Project construction phase. As with the Tier 1 projects, during the construction phases of these projects any alterations to sediment transport pathways affecting aggregate extraction areas will be gradual as the presence of infrastructure increases reaching the MDS.

14.10.3.5 As per volume 6, annex 6.1: Physical processes technical report of the PEIR, both the residual current and levels of potential sediment transport are low within the Mona Array Area, also reducing the likelihood and significance of any cumulative effect.

14.10.3.6 The cumulative effect is predicted to be of local spatial extent, short term duration, high frequency and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **negligible.**

Sensitivity of the receptor

14.10.3.7 The sensitivity of the receptor has been assessed in paragraph 14.8.6.6. It is considered to be **medium**.

Significance of effect

14.10.3.8 Overall, the magnitude of the cumulative effect is deemed to be **negligible** and the sensitivity of the receptor is deemed to be **medium**. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

Operations and maintenance phase

Magnitude of impact

14.10.3.9 The magnitude of effect on sediment transport pathways arising from activities during the operations and maintenance phase has been assessed as low for the Mona Offshore Wind Project alone, as described in paragraph 14.8.6.10.

14.10.3.10 The proposed development of Awel y Môr comprising of 50 wind turbines may be in operation during the operations and maintenance phase of the Mona Offshore Wind Project. The Awel y Môr wind farm array is 12.2km from the Mona Array Area and 3.6km from the Mona Offshore Cable Corridor. The modelling carried out for the Mona Offshore Wind Project concluded that the impact on sediment transport and sediment transport pathways was low when considered alone. Changes are observed in close proximity to the wind turbine structures with sediment transport returning to baseline levels beyond the Mona Array Area. Therefore, no overlap is expected to create cumulative changes in the sediment transport and sediment transport pathways between the two wind farm developments (volume 2, chapter 6: Physical processes of the PEIR).

14.10.3.11 The proposed developments of the Morgan Generation Assets and the Morecambe Offshore Windfarm Generation Assets, comprising up to 107 and 40 wind turbines respectively, may be in operation during the operations and maintenance phase of the Mona Offshore Wind Project. The Morgan Generation Assets are 5.5km from the Mona Array Area and 32.9km from the Mona Offshore Cable Corridor, while the Morecambe Offshore Windfarm Generation Assets are 8.9km from the Mona Array Area and 21.7km from the Mona Offshore Cable Corridor.

14.10.3.12 As per volume 6, annex 6.1: Physical processes technical report of the PEIR, both the residual current and levels of potential sediment transport are low within the Mona Array Area, also reducing the likelihood and significance of any cumulative effect.

14.10.3.13 The cumulative effect is predicted to be of local spatial extent, long term duration, continuous and reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**.

Sensitivity of the receptor

14.10.3.14 The sensitivity of the receptor has been assessed in paragraph 14.8.6.6. It is considered to be **medium**.

Significance of effect

14.10.3.15 Overall, the magnitude of the cumulative impact is deemed to be **low** and the sensitivity of the receptor is considered to be **medium**. As set out in Table 14.12, the

effect will therefore be of **minor adverse** significance, which is not significant in EIA terms.

Decommissioning phase

14.10.3.16 The effects of decommissioning activities are expected to be the same or similar to the effects from construction, with the difference that scour and cable protection may remain *in situ* during decommissioning and continue to influence tidal currents. Otherwise, during the decommissioning phase any alterations to sediment transport pathways affecting aggregate extraction areas would gradually decrease as structures are removed and cut below the seabed. As set out in Table 14.12, the effect will therefore be of **minor adverse** significance, which is not significant in EIA terms. The effect has been defined as minor rather than negligible as there will still be a perceptible effect, although it is unlikely to be critical in the decision-making process.

14.10.4 Interference with the performance of REWS located on oil and gas platforms

14.10.4.1 The physical presence of wind turbines and OSPs may lead to interference with the performance of REWS located on oil and gas platforms. The presence of other infrastructure in-combination with the Mona Offshore Wind Project may have a cumulative effect on oil and gas platforms with REWS. The impact is limited to the operations and maintenance phase as it is when the structures are constructed and operating that the interference is possible.

14.10.4.2 Consultation with stakeholders is ongoing to determine the magnitude of this impact and the sensitivity of receptors. This impact will be fully assessed in the Environmental Statement.

14.10.5 Interference with offshore microwave fixed communication links

14.10.5.1 The physical presence of wind turbines and OSPs may cause offshore microwave fixed communication links between offshore installations to be unable to provide an effective service. The presence of other infrastructure in-combination with the Mona Offshore Wind Project may have a cumulative effect on these offshore microwave fixed communication links. The impact is limited to the operations and maintenance phase as it is when the structures are constructed and operating that the interference is possible.

14.10.5.2 Consultation with stakeholders is ongoing to determine the magnitude of this impact and the sensitivity of receptors. This impact will be fully assessed in the Environmental Statement.

14.11 Transboundary effects

14.11.1.1 A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects with regard to other sea users from the Mona Offshore Wind Project upon the interests of other states.

14.12 Inter-related effects

14.12.1.1 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. underwater sound 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 other sea users, such as sediment plumes, may interact to produce a different, or greater effect 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.

14.12.1.2 A description of the likely interactive effects arising from the Mona Offshore Wind Project on other sea users is provided in volume 2, chapter 15: Inter-related effects (offshore) of the PEIR.

14.13 Summary of impacts, mitigation measures and monitoring

14.13.1.1 Information on other sea users within the local and regional other sea users study areas was collected through consultation and desktop reviews of available datasets.

- Table 14.17 presents a summary of the potential impacts, measures adopted as part of the project and residual effects in respect to other sea users. 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
- Table 14.18 presents a summary of the potential cumulative impacts, mitigation measures and residual effects. Overall it is concluded that there will be no significant cumulative effects from the Mona Offshore Wind Project alongside other projects/plans
- No potential transboundary impacts have been identified in regard to effects of the Mona Offshore Wind Project.

Table 14.17: 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							
Displacement of recreational activities	✓	✓	✓	Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners, safety zones.	C: Low O: Medium D: Low	C: Low O: Low D: Low	C: Minor O: Minor D: Minor	N/A	N/A	N/A
Increased SSCs and associated deposition affecting recreational diving and bathing sites	✓	✓	✓	Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners, safety zones.	C: Low O: Negligible D: Low	C: Low O: Low D: Low	C: Minor O: Negligible D: Minor	N/A	N/A	N/A
Impacts to existing cables or pipelines or restrictions on access to cables or pipelines	✓	✓	✓	Safety zones, cable and pipeline crossing/proximity agreements, consultation with oil and gas operators.	C: Low O: Low D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	N/A	N/A
Increased SSCs and associated deposition affecting aggregate extraction areas	✓	✓	✓	Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners, safety zones.	C: Low O: Negligible D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	N/A	N/A
Alterations to sediment transport pathways affecting aggregate extraction areas	✓	✓	✓	Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners, safety zones.	C: Negligible O: Low D: Negligible	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	N/A	N/A
Reduction or restriction of oil and gas exploration activities (including surveys, drilling and the placement of infrastructure) within the Mona Array Area	✓	✓	✓	Safety zones, consultation with oil and gas operators.	C: Medium O: Medium D: Medium	C: Negligible O: Negligible D: Negligible	C: Minor O: Minor D: Minor	N/A	N/A	N/A
Interference with the performance of REWS located on oil and gas platforms	×	✓	×	Ongoing consultation – to be addressed in Environmental Statement.	O: TBC	O: TBC	O: TBC	TBC	TBC	TBC
Interference with offshore microwave fixed communication links	×	✓	×	Ongoing consultation – to be addressed in Environmental Statement.	O: TBC	O: TBC	O: TBC	TBC	TBC	TBC

Table 14.18: 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 and Tier 2										
Displacement of recreational activities	×	✓	×	Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners, safety zones.	O: Medium	O: Low	O: Minor	N/A	N/A	N/A
Increased SSCs and associated deposition affecting aggregate extraction areas	✓	✓	✓	Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners, safety zones.	C: Low O: Negligible D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	N/A	N/A
Alterations to sediment transport pathways affecting aggregate extraction areas	✓	✓	✓	Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners, safety zones.	C: Negligible O: Low D: Negligible	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	N/A	N/A
Interference with the performance of REWS located on oil and gas platforms	×	✓	×	Ongoing consultation – to be addressed in Environmental Statement.	O: TBC	O: TBC	O: TBC	TBC	TBC	TBC
Interference with offshore microwave fixed communication links	×	✓	×	Ongoing consultation – to be addressed in Environmental Statement.	O: TBC	O: TBC	O: TBC	TBC	TBC	TBC
Tier 1, Tier 2 and Tier 3										
Increased SSCs and associated deposition affecting aggregate extraction areas	✓	✓	✓	Promulgation of information advising on the nature, timing and location of activities, including through Notices to Mariners, safety zones.	C: Low O: Negligible D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	N/A	N/A

14.14 Next steps

14.14.1.1 Further consultation is required to refine the impacts on oil and gas operators. This consultation shall continue during the preparation of the Environmental Statement such that the most up to date information can be used within the assessments.

14.15 References

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