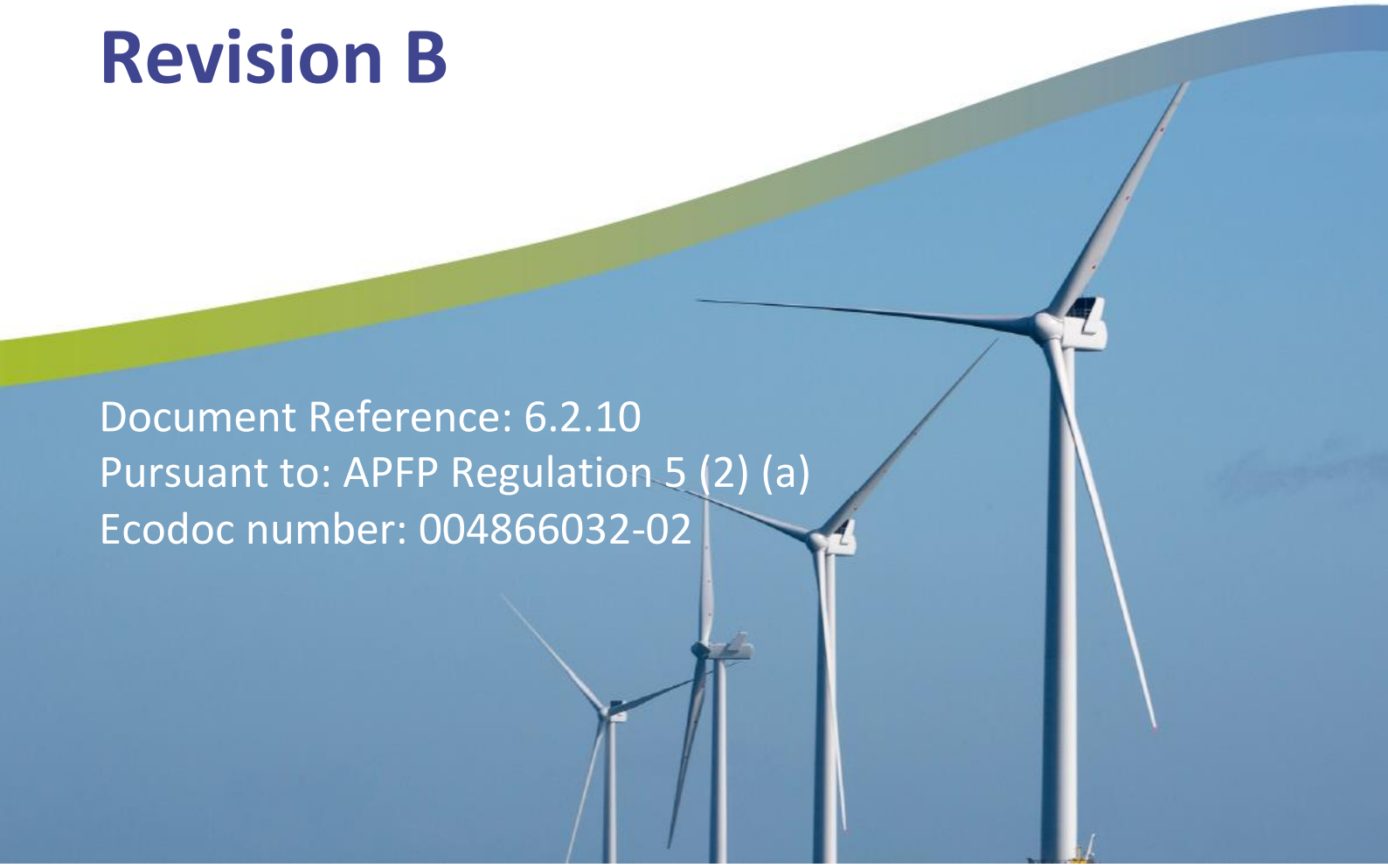
Rampion 2 Wind Farm

Category 6: Environmental Statement

Volume 2, Chapter 10: Commercial fisheries (tracked)

Date: August 2024

Revision B



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Executive Summary

This chapter of the Rampion 2 Environmental Statement (ES) examines the likely significant effects on commercial fisheries that may be experienced as a result of Rampion 2.

A desk-based review of literature and existing datasets has been undertaken to establish a baseline of commercial fisheries activity ongoing in the area. This understanding of the baseline has been further informed by consultation with the commercial fisheries industry in the area. Commercial fisheries receptors that have been identified and which are considered within the assessment include the following:

- potting fleet (i.e. vessels fishing with pots and traps);
- dredging fleet (i.e. vessels fishing with dredges);
- netting fleet (i.e. vessels fishing with nets);
- beam trawl fleet (i.e. vessels fishing with beam trawls);
- demersal otter trawl fleet (i.e. vessels fishing with demersal trawls); and
- pelagic trawl fleet (i.e. vessels fishing with pelagic trawls).

These fleets are comprised of both UK-registered fishing vessels and fishing vessels from European Member States.

The assessment has considered impacts from Rampion 2 construction, operation and decommissioning activities including:

- reduction in access to, or exclusion from established fishing grounds;
- displacement leading to gear conflict and increased fishing pressure on adjacent grounds;
- disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity;
- increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity;
- additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Rampion 2 area; and
- physical presence of infrastructure leading to gear snagging.

A range of environmental measures are embedded as part of the Rampion 2 design to remove or reduce any significant environmental effects on commercial fisheries, as far as possible. Based on the proposed location of the offshore infrastructure and its subsequent operation, plus the incorporation of appropriate environmental measures, No Significant Effects have been identified in relation to the potential impact of Rampion 2 on commercial fisheries.

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10. Commercial fisheries

10.1 Introduction

10.1.1 This chapter of the Environmental Statement (ES) presents the results of the assessment of the likely significant effects of Rampion 2 with respect to commercial fisheries. It should be read in conjunction with the project description provided in **Chapter 4: The Proposed Development, Volume 2** of the ES (Document Reference: 6.2.4) and the relevant parts of the following chapters:

- **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8) (where impacts on the ecology of fish and shellfish, including species of commercial interest, are assessed); and
- **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13) (where impacts on the navigational safety aspects of fishing activity are assessed).

10.1.2 For the purpose of this chapter, 'commercial fishing' is defined as any form of fishing activity legally undertaken for taxable profit. Recreational fishing and charter angling businesses are addressed in **Chapter 7: Other marine users, Volume 2** of the ES (Document Reference: 6.2.7).

10.1.3 This technical chapter describes:

- the legislation, planning policy and other documentation that has informed the assessment (**Section 10.2: Relevant legislation, planning policy, and other documentation**);
- the outcome of consultation and engagement that has been undertaken to date, including how matters relating to commercial fisheries within the Statutory Consultation periods, have been addressed (**Section 10.3: Consultation and engagement**);
- the scope of the assessment for commercial fisheries (**Section 10.4: Scope of the assessment**);
- the methods used for the baseline data gathering (**Section 10.5: Methodology for baseline data gathering**);
- the overall baseline (**Section 10.6: Baseline conditions**);
- embedded environmental measures relevant to commercial fisheries and the relevant maximum design scenario (**Section 10.7: Basis for ES assessment**);
- the assessment methods used for the ES (**Section 10.8: Methodology for ES assessment**);
- the assessment of commercial fisheries effects (**Section 10.9 - 10.11: Assessment of effects** and **Section 10.12: Assessment of cumulative effects**);

- consideration of transboundary effects (**Section 10.13: Transboundary effects**);
- inter-related effects (**Section 10.14: Inter-related effects**);
- a summary of residual effects for commercial fisheries (**Section 10.15: Summary of residual effects**);
- a glossary of terms and abbreviations is provided in **Section 10.16: Glossary of terms and abbreviations**; and
- a references list is provided in **Section 10.17: References**.

10.1.4 This chapter is supported by **Appendix 10.1: Commercial fisheries baseline technical report, Volume 4** of the ES (Document Reference: 6.4.10.1), and **Figures 10.1-10.11**, **Volume 3** (Document Reference: 6.3.10).

10.2 Relevant legislation, planning policy and other documentation

Introduction

10.2.1 This section identifies the legislation, policy and other documentation that has informed the assessment of effects with respect to commercial fisheries. Further information on policies relevant to the EIA and their status is provided in **Chapter 2: Policy and legislative context, Volume 2** of the ES (Document Reference: 6.2.2) of this ES.

Legislation and national planning policy

10.2.2 This document has been prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, of relevance to Nationally Significant Infrastructure Projects (NSIPs), and the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended), of specific relevance to marine licensing under the Marine and Coastal Access Act 2009.

10.2.3 Planning policy on offshore renewable energy NSIPs, specifically in relation to commercial fisheries, 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). NPS EN-3 includes guidance on what matters are to be considered in the assessment; these are summarised in **Table 10-1** below and

10.2.4 **Table 10-2** lists the national planning policy on decision-making relevant to commercial fisheries. The NPS for Electricity Networks (EN-5; DECC, 2011c) has also been reviewed but contains no policies of direct relevance to commercial fisheries.

10.2.5 It is noted that the NPS for Energy (EN-1) and the NPS for Renewable Energy Infrastructure (EN-3) are in the process of being revised. Draft versions were published for consultation in March 2023 (Department for Energy Security and Net Zero (DESNZ), 2023a and DESNZ 2023b, respectively). A review of these draft versions has been undertaken in the context of this chapter (see **Table 10-3**). A

review of these draft versions has been undertaken in the context of this chapter. Whilst the paragraph numbers are subject to change, the key provisions within the draft NPS published in 2023 are consistent with those for the extant NPS presented in the tables below.

Table 10-1 NPS EN-3 provisions relevant to commercial fisheries

Policy description	Relevance to assessment
Consultation	
"Early consultation should be undertaken with statutory advisors and with representatives of the fishing industry which could include discussions of impact assessment methodologies. Where any part of a proposal involves a grid connection to shore, appropriate inshore fisheries groups should also be consulted" (paragraph 2.6.127 of NPS EN-3)	Consultation with representatives of the fishing industry has commenced and is ongoing. Engagement from July 2020 up to the end of October 2021 is summarised in **Section 10.3**.
"Where a number of offshore wind farms have been proposed within an identified zone, it may be beneficial to undertake such consultation at a zonal, rather than a site-specific, level" (paragraph 2.6.128 of NPS EN-3)	Consultation has been undertaken at a scale that seeks to capture fishing activity in the region, including in and around Rampion Offshore Wind Farm (Rampion 1) and Rampion 2. Engagement from July 2020 up to the end of October 2021 is summarised in **Section 10.3**.
"The assessment by the applicant should include detailed surveys of the effects on fish stocks of commercial interest and any potential reduction in such stocks, as well as any likely constraints on fishing activity within the project's boundaries" (paragraph 2.6.129 of NPS EN-3)	Relevant surveys and data are detailed in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8). In addition, consultation with the fishing industry (see **Section 10.3**) has identified key concerns as well as available data and potential impacts, which have been taken into account within the commercial fisheries assessment (see **Section 10.9 to 10.11**).
Baseline data	
"Robust baseline data should have been collected and studies conducted as part of the assessment" (paragraph 2.6.129 of NPS EN-3)	Robust baseline datasets analysed include EU and UK statistics and surveillance data, industry consultation and published reports, as described in **Section 10.5**. Datasets have been acknowledged as appropriate by the Sussex IFCA.

Policy description	Relevance to assessment
Safety zones	
"In some circumstances, applicants may seek declaration of safety zones around wind turbines and other infrastructure, although these might not be applied until after consent to the wind farm has been granted. The declaration of a safety zone excludes or restricts activities within the defined sea areas including commercial fishing." *(paragraph 2.6.126 of NPS EN-3)*	Rampion Extension Development Limited (RED) will apply for safety zones post-consent. Safety zones of up to 500m will be sought during construction, maintenance and decommissioning phases, as described in both the maximum design scenario and embedded environmental measures presented in **Section 10.7: Basis for ES Assessment**. The need for safety zones has been considered by the navigational risk assessment (NRA) completed for Rampion 2. The risk assessment results have been taken into account within the commercial fisheries assessment (see **Section 10.9 to 10.11**). Consultation has also been undertaken with the Maritime and Coastguard Agency (MCA) (see **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13)).
"Where there is a possibility that safety zones will be sought around offshore infrastructure, potential effects should be included in the assessment on commercial fishing" (paragraph 2.6.130 of NPS EN-3)	
"Where the precise extents of potential safety zones are unknown, a realistic worst case scenario should be assessed. Applicants should consult the MCA" (paragraph 2.6.131 of NPS EN-3)	
Fish stocks	
"The assessment by the applicant should include detailed surveys of the effects on fish stocks of commercial interest and the potential reduction or increase in such stocks that will result from the presence of the wind farm development and of any safety zones" (paragraph 2.6.131 of NPS EN-3)	The Rampion 2 assessment has considered the effects on commercial fish stocks (see **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8)).

Table 10-2 NPS EN-3 policy on decision making relevant to commercial fisheries

Policy description	Relevance to assessment
Commercial fisheries	
"The Secretary of State should be satisfied that the site selection process has been undertaken in a	The effects arising from the Proposed Development have been and will be

Policy description	Relevance to assessment
way that reasonably minimises adverse effects on fish stocks, including during peak spawning periods and the activity of fishing itself" (paragraph 2.6.132 of NPS EN-3)	discussed with statutory bodies during pre- and post-application consultation. RED is, and will continue to, take steps to minimise the effects upon the fishing industry in the area through appropriate mitigation where required. Commitments related to commercial fisheries and adopted as part of Rampion 2 are provided in **Section 10.7**.
"The Secretary of State should consider the extent to which the proposed development occupies any recognised important fishing grounds and whether the project would prevent or significantly impede protection of sustainable commercial fisheries or fishing activities. Where the IPC considers the wind farm would significantly impede protection of sustainable fisheries or fishing activity at recognised important fishing grounds, this should be attributed correspondingly significant weight" (paragraph 2.6.132 of NPS EN-3)	The extent to which Rampion 2 impacts on recognised and important fishing grounds has been considered and consultation with fishing stakeholders in order to fully understand any potential impacts has been undertaken (see **Section 10.3**). The results of the commercial fisheries assessment are presented in see **Section 10.9 to 10.11**.
"The Secretary of State should be satisfied that the applicant has sought to design the proposal having consulted representatives of the fishing industry with the intention of minimising the loss of fishing opportunity taking into account effects on other marine interests. Guidance has been jointly agreed by the renewables and fishing industries on how they should liaise with the intention of allowing the two industries to successfully co-exist" (paragraph 2.6.133 of NPS EN-3)	
Mitigation for commercial fisheries	
"Any mitigation proposals should result from the applicant having detailed consultation with relevant representatives of the fishing industry" (paragraph 2.6.134 of NPS EN-3)	Consultation with UK and overseas stakeholders from the fishing community is on-going (see **Section 10.3**).
"Mitigation should be designed to enhance where reasonably possible any potential medium and long-term positive benefits to the fishing industry and Commercial fish stocks"	A range of commitments are presented within **Section 10.7**, including development of an Outline Fisheries Liaison and Co-existence Plan (FLCP).

Policy description	Relevance to assessment
(paragraph 2.6.135 of NPS EN-3)	

Table 10-3 Draft NPS EN-3 2023 policy relevant to commercial fisheries

Policy description	Relevance to assessment
"Applicants should consider guidance on best practice for fisheries liaison, which has been jointly agreed by the renewables industry and fishing community." (paragraph 3.8.169 of draft NPS EN-3)	The commercial fisheries impact assessment take account of relevant guidance, as confirmed in this section below.
"In some circumstances, transboundary issues may be a consideration as fishing vessels from other coastal States may fish in waters within which offshore wind farms are sited. Applicants should seek advice from Defra in such circumstances." (paragraph 3.8.170 of draft NPS EN-3)	Potential transboundary effects are considered in **Section 10.13**.
"Applicants should undertake early consultation with a cross-section of the fishing industry, as well as MMO, SNCBs, Defra and Welsh Government, to identify impacts, and actively encourage input from active fishermen to provide evidence of their use of the area to support the impact assessments." (paragraph 3.8.171 of draft NPS EN-3)	Consultation with representatives of the fishing industry has been undertaken and is ongoing (see **Section 10.3**).
"Where any part of a proposal involves a grid connection to shore, appropriate inshore fisheries groups should also be consulted." (paragraph 3.8.172 of draft NPS EN-3)	Consultation with representatives of the fishing industry has been undertaken and is ongoing (see **Section 10.3**).
"Applicants will be expected to undertake dialogue with the fishing industry during the planning and design of individual offshore wind farm proposals to maximise the potential for co-existence/co-location and reduce potential displacement." (paragraph 3.8.173 of draft NPS EN-3)	Consultation with representatives of the fishing industry has been undertaken and is ongoing (see **Section 10.3**).
"Applicant assessments should include robust baseline data and detailed surveys of the effects	The Project assessment has considered the effects on commercial fish stocks

Policy description	Relevance to assessment
on fish stocks of commercial interest and any potential reduction in such stocks, as well as any likely constraints on fishing activity within the project's boundaries." (paragraph 3.8.174 of draft NPS EN-3)	(see **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8)).
"In some circumstances, applicants may seek declaration of safety zones around wind turbines and other infrastructure. Although these might not be applied until after consent to the wind farm has been granted. *The declaration of a safety zone excludes or restricts activities within the defined sea areas including commercial fishing.* *Where there is a possibility that safety zones will be sought applicant assessments should include potential effects on commercial fishing.* *Where the precise extents of potential safety zones are unknown, a realistic worst-case scenario should be assessed. Applicants should consult the Maritime and Coastguard Agency (MCA) as part of this process."* *(paragraph 3.8.175 to 3.8.178 of draft NPS EN-3)*	Rampion Extension Development Limited (RED) will apply for safety zones post-consent. Safety zones of up to 500m will be sought during construction, maintenance and decommissioning phases, as described in both the maximum design scenario and embedded environmental measures presented in **Section 10.7: Basis for ES Assessment**. The need for safety zones has been considered by the navigational risk assessment (NRA) completed for Rampion 2. The risk assessment results have been taken into account within the commercial fisheries assessment (see **Section 10.9 to 10.11**). Consultation has also been undertaken with the Maritime and Coastguard Agency (MCA) (see **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13)).
"Exclusion of certain types of fishing may make an area more productive for other types of fishing. Applicant assessments should therefore include detailed surveys of the effects on fish stocks of commercial interest and the potential reduction or increase in such stocks that will result from the presence of the wind farm development and of any safety zones." *(paragraph 3.8.179 of draft NPS EN-3)*	The Project assessment has considered the effects on commercial fish stocks (see **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8)).

Other relevant policies

10.2.6 The UK Marine Policy Statement (MPS; HM Government, 2011) explicitly expresses support for the fishing sector, and with regard to displacement, advocates "*seeking solutions such as co-location of activity wherever possible*". Specifically, paragraphs 3.8.1, 3.8.2, and 2.3.1.5 stipulate that the process of

marine planning should "*enable the co-existence of compatible activities wherever possible*" and supports the reduction of real and potential conflict as well as maximising compatibility and encouraging co-existence of activities.

10.2.7 The South Inshore and Offshore Marine Plan (Defra, 2018) support sustainable fishing and its diversification. A summary of South Inshore and Offshore Marine Plan policies relevant to commercial fisheries is provided in **Table 10-4**.

Table 10-4 South Inshore and Offshore Marine Plan policies relevant to commercial fisheries

Policy description	Relevance to assessment
S-FISH-1: Proposals that support the diversification of a sustainable fishing industry and or enhance fishing industry resilience to the effects of climate change should be supported.	RED is committed to supporting a sustainable fishing industry. RED has developed an **Outline Commercial Fisheries Liaison and Co-existence Plan** (Document Reference: 7.19)that sets out measures to enable the co-existence of sustainable fishing and offshore wind farm development.
S-FISH-2: Proposals that may have significant adverse impacts on access to, or within, sustainable fishing or aquaculture sites must demonstrate that they will, in order of preference: a) avoid, b) minimise, c) mitigate significant adverse impacts, d) if it is not possible to mitigate the significant adverse impacts, proposals should state the case for proceeding.	The extent to which Rampion 2 impacts on recognised and important fishing grounds has been considered and consultation with fishing stakeholders in order to fully understand any potential impacts has been undertaken (see **Section 10.3**). The results of the commercial fisheries assessment are presented in see **Section 10.9 to 10.11**. A range of commitments to mitigation are presented within **Section 10.7**.

Other relevant information and guidance

10.2.8 A summary of other information and guidance relevant to the assessment undertaken for commercial fisheries is provided here:

- Best Practice Guidance for Fishing Industry Financial and Economic Impact Assessments (United Kingdom Fisheries Economic Network [UKFEN] and Seafish, 2012);
- Fisheries Liaison with Offshore Wind and Wet Renewables group (FLOWW) :Best Practice guidance for offshore renewable developments: Recommendations for Fisheries Liaison (FLOWW, 2014 and BERR, 2008);
- FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Disruption Settlements and Community Funds (FLOWW, 2015);
- Blyth-Skyrme, R.E. (2010a). Options and opportunities for marine fisheries mitigation associated with wind farms. Final report for COWRIE Ltd, London, Contract FISHMITIG09. 125pp;

- Blyth-Skyrme, R.E. (2010b). Developing guidance on fisheries Cumulative Impact Assessment for wind farm developers. Report for COWRIE Ltd, London. 7pp;;
- Cumulative impact assessment guidelines, guiding principles for cumulative impacts assessments in offshore wind farms (RenewableUK, 2013);
- Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects. Contract report: ME5403 (Cefas, 2012);
- Fisheries Liaison Guidelines - Issue 6 (UK Oil and Gas, 2015);
- Fishing and Submarine Cables - Working Together (International Cable Protection Committee, 2009); and
- Offshore Wind Farms – Guidance note for Environmental Impact Assessment in respect of FEPA and CPA requirements (CEFAS, and MCEU, 2004).

10.3 Consultation and engagement

Overview

10.3.1 This section describes the stakeholder engagement undertaken for Rampion 2. This consists of the outcome of, and response to, the Scoping Opinion in relation to the commercial fisheries assessment, non-statutory consultation and Rampion 2's statutory consultation. An overview of engagement undertaken for Rampion 2 as a whole can be found in **Chapter 5: Approach to the EIA, Volume 2** of the ES (Document Reference: 6.2.5), and the **Consultation Report** (Document Reference: 5.1).

Early engagement

10.3.2 No specific commercial fisheries EIA engagement was carried out prior to Scoping.

Scoping opinion

10.3.3 RED submitted a Scoping Report (RED, 2020) and request for a scoping opinion to the Secretary of State (administered by the Planning Inspectorate (PINS)) on 2 July 2020. A scoping opinion was received on 11 August 2020. The Scoping Report set out the proposed commercial fisheries assessment methodologies, outline of the baseline data collected and proposed, and the scope of the assessment. **Table 10-5** sets out the comments received in Section 4 of the PINS scoping opinion 'Aspect based scoping tables – Offshore' and how these have been addressed in this ES. A full list of the PINS Scoping Opinion comments and responses is provided in **Appendix 5.2: Responses to the Scoping Opinion, Volume 4** (Document Reference: 6.4.5.2). Regard has also been given to other stakeholder comments that were received in relation to the Scoping Report.

Table 10-5 PINS scoping opinion responses – commercial fisheries

PINS ID number	Scoping opinion comment	How this is addressed in this ES
4.5.1	Additional steaming to alternate fishing grounds; The Scoping Report proposes to scope this matter out of the ES on the basis that the impact will be localised and not significant due to the implementation of the mitigation measure to give adequate notification. The Inspectorate agrees that this matter can be scoped out of the impact assessment having regard to the likely magnitude and on the basis that significant effects are unlikely to occur.	Whilst the Scoping Opinion agreed with the proposed scoping out of the potential impact, subsequent consultation has indicated that some stakeholders are concerned about the effects of Rampion 2 on steaming times to alternate fishing grounds. RED acknowledge that this potential impact merits more detailed assessment for all project phases; impact assessment outcomes are therefore presented in **Sections 10.9 to 10.11**.

Non-statutory consultation

Overview

10.3.4 Non-statutory consultation captures all consultation and engagement outside of statutory consultation, and has been ongoing with a number of prescribed and non-prescribed consultees in relation to commercial fisheries. A summary of the non-statutory consultation undertaken since completion of the Scoping Report is outlined in this section.

10.3.5 Given the social distancing restrictions which were in place due to the COVID-19 pandemic, some consultation relating to commercial fisheries has taken place online, primarily in the form of conference calls using Microsoft Teams.

10.3.6 RED participated in all consultation meetings. Poseidon Aquatic Resource Management Ltd (Poseidon), responsible for undertaking the commercial fisheries impact assessment, participated in the meetings described immediately below. These meetings were focused on informing understanding of baseline fisheries activity. RED has been supported by Brown & May Marine Ltd, acting as Company Fisheries Liaison Officer in undertaking a number of fisheries working group meetings, described further below. These were focused on providing the fishing industry with Rampion 2 project updates and providing a forum to discuss industry views.

National Federation of Fishermen's Organisations (NFFO)

10.3.7 Engagement with the NFFO has taken the form of a conference call on 9 December 2020 and formal feedback provided by the NFFO as detailed below in **Table 10-6**.

10.3.8 In relation to the Scoping Report (RED, 2020) and Scoping Opinion (PINS, 2020), the NFFO suggested that the potential impact of 'additional steaming to alternate fishing grounds' should be considered in the assessment on the basis that Rampion 1 was understood to have affected steaming times.

10.3.9 Baseline data sources and the nature of commercial fisheries activity in the Study Area were discussed with the NFFO, who agreed that the baseline data presented to them in the meeting was representative of fishing activity in the Study Area. Limitations associated with baseline data were discussed and additional data sources, namely UK Fishermen's Information Mapping Project (UKFIM) data held by The Crown Estate, were identified.

10.3.10 It was discussed and agreed that understanding the extent to which fishing has continued within the existing Rampion 1 project area should help frame the Rampion 2 impact assessment.

10.3.11 The NFFO identified additional Selsey-based fishermen that they advised should be consulted with to inform the impact assessment. Engagement with these fishermen has been pursued in advance of DCO Application via the working group meetings **(paragraph 10.3.31 to 10.3.34)**.

10.3.12 The importance of considering potential cumulative effects was also highlighted by the NFFO (see **Section 10.12**).

Sussex Inshore Fisheries and Conservation Authority (IFCA)

10.3.13 Engagement with the IFCA took the form of a conference call on 10 December 2020 and formal feedback provided by the IFCA as detailed below in **Table 10-6**.

10.3.14 Baseline data sources and the nature of commercial fisheries activity in the Study Area were discussed with the IFCA, who agreed that the baseline data presented to them in the meeting was representative of fishing activity in the Study Area. Limitations associated with baseline data were discussed and additional data sources identified, including information on numbers of active fishing vessels in the IFCA shellfish permit holder database and patrol sightings data. Potential implications of Brexit on the activity of the European fishing fleet were discussed.

10.3.15 In addition to commercial fisheries fleets, the IFCA highlighted the existence of activity by local recreational and charter angling vessels, which is further considered in **Chapter 7: Other marine users, Volume 2** of the ES (Document Reference: 6.2.7).

10.3.16 Existing and planned fisheries management measures within Marine Conservation Zones (MCZs) were discussed with the IFCA.

10.3.17 It was discussed and agreed that understanding the extent to which fishing has continued in the existing Rampion 1 project area should help frame the Rampion 2 impact assessment.

10.3.18 The IFCA identified additional stakeholders that they advised should be consulted with to inform the impact assessment; engagement with these fishermen has been pursued in advance of DCO Application via the working group meetings **(paragraph 10.3.31 to 10.3.34)**..

Brighton and Newhaven Fish Sales & Leach Fishing (Local Industry)

10.3.19 Engagement has been ongoing since December 2020 which commenced with a conference call on 8 December 2020 and has continued via the Working Group meetings described further below from **paragraph 10.3.29**.

10.3.20 In relation to the Scoping Report (RED, 2020) and Scoping Opinion (PINS, 2020), the stakeholder suggested that the potential impact of 'additional steaming to alternate fishing grounds' should be considered in the impact assessment on the basis that Rampion 1 was understood to have impacted steaming times.

10.3.21 Baseline data sources and the nature of commercial fisheries activity in the Study Area were discussed with the stakeholder, who agreed that the baseline data presented to them in the meeting was representative of fishing activity in the Study Area. Limitations associated with baseline data were discussed and potential additional data sources identified, namely Vessel Monitoring System data for vessels of less than 15m length. Potential implications of Brexit on the activity of the European fishing fleet were discussed.

10.3.22 It was discussed and agreed that understanding the extent to which fishing has continued in the existing Rampion 1 project area should help frame the Rampion 2 impact assessment. The stakeholder advised that based on their own experience, fishing activity in the existing Rampion 1 project area is limited.

10.3.23 The stakeholder identified additional French producer organisations that they advised should be consulted with to inform the impact assessment; engagement with FROM Nord has been undertaken and is described in paragraph 10.3.25 to 10.3.28, and engagement with Basse Normandie has been pursued in advance of DCO Application but no response received.

10.3.24 The importance of considering potential cumulative effects was highlighted by the stakeholder and the scale at which assessment should be undertaken was discussed, noting that it was agreed that the Eastern English Channel may be appropriate (see **Section 10.12**).

FROM Nord (French Producer Organisation)

10.3.25 Engagement has been ongoing since December 2020, taking the form of a conference call on 9 December 2020.

10.3.26 Baseline data sources and the nature of commercial fisheries activity in the Study Area were discussed with the producer organisation, who agreed that the baseline data presented to them in the meeting was representative of fishing activity in the Study Area. Limitations associated with baseline data were discussed and additional data sources identified. Potential implications of Brexit on the activity of the European fishing fleet were discussed.

10.3.27 The producer organisation observed that vessels who are members of their association do fish in the Study Area, but that the majority of activity is outside of the Rampion 2 boundary. They commented that French vessels would typically not fish within a wind farm.

10.3.28 The stakeholder identified an additional French producer organisation that they advised should be consulted with to inform the impact assessment; engagement with Basse Normandie has been pursued in advance of DCO Application but no response was received.

Fisheries Working Group Meetings (Local Industry) – February 2021

10.3.29 RED held three meetings with separate fisheries working groups in February 2021 to introduce Rampion 2 to commercial fishermen and set out the intended approach to ongoing liaison between RED and fisheries stakeholders. Stakeholders were invited to provide feedback.

10.3.30 On 9 February 2021 RED met virtually with the Sussex Inshore Fisheries Group (two stakeholder attendees), on 10 February 2021 with the Commercial Fisheries Working Group (four stakeholder attendees), and on 12 February 2021 with the Selsey Fishermen's Association (seven stakeholder attendees). Fishermen in attendance expressed a variety of views on Rampion 2 and provided anecdotal information on the extent to which fishing is undertaken in Rampion 1; the views of individual stakeholders were not always aligned. Points consistently raised across all three meetings can be summarised as follows:

- Concerns were expressed about the potential for exclusion and displacement of fishing activity from Rampion 2;
- Concerns were expressed regarding potential interaction between fishing gear and cables, cable protection and relocated boulders;
- Mixed views were expressed on the extent of fishing activity in Rampion 1; both adverse and beneficial effects were commented upon by stakeholders;
- Mixed views were expressed about the effects of Rampion 1 on fish and shellfish species of commercial importance; both adverse and beneficial effects were commented upon by stakeholders; and
- Concerns were expressed about the potential for cumulative displacement effects with the introduction of fisheries management measures in conservation areas and other planned developments.

Fisheries Working Group Meetings (Local Industry) – September 2021

10.3.31 RED held four meetings with separate fisheries working groups in September 2021 to communicate to stakeholders refined Rampion 2 boundaries and opportunities to respond to statutory consultation on Rampion 2 proposals and on the PEIR (RED, 2021).

10.3.32 On 6 September 2021 RED met virtually with the Commercial Fisheries Working Group (three stakeholder attendees), on 7 September with the Sussex Inshore Fisheries Group (one stakeholder attendee), and on 8 September with the Inshore Fisheries Group (three stakeholder attendees) and the Selsey Fishermen's

Association (two stakeholder attendees). Stakeholders in attendance noted that they would further disseminate the information supplied to them by RED to other stakeholders including the South East Fishermen's Protection Society and Monteum Ltd.

10.3.33 Working group stakeholder attendees raised the following points of relevance to commercial fisheries:

- Fishing areas within and around Rampion 2 were discussed, with various fishing grounds identified, including some within Rampion 2;
- Elements of Rampion 2 design were discussed, with RED providing input in line with the project description set out in **Chapter 4: The Proposed Development, Volume 2** of the ES (Document Reference: 6.2.4);
- In relation to Rampion 1 it was observed that some fishing activity is ongoing within the array area and that whelk fishing gear is stored within Rampion 1;
- Working group members expressed concern about loss of fishing grounds as a result of Rampion 2. RED explained that fishing can resume in Rampion 2 once operational and that during the construction phase, cooperation agreements and associated payments would be engaged where appropriate;
- A working group member commented that they had observed displacement of trawlers from Rampion 1 and that the local area had become more crowded in terms of fishing activity;
- It was queried whether a Statement of Common Ground would be developed with the working groups. RED confirmed that this is likely and would be progressed following submission of the DCO application, when further working group meetings would be scheduled;
- The evidence requirements for fishing vessels to be deemed eligible for any cooperation agreements and associated payments was queried. RED confirmed that this could be further discussed following submission of the DCO application, when further working group meetings would be scheduled; and
- Access to and suggestions for use of the remaining Rampion 1 community fund budget were discussed.

10.3.34 A further round of working group meetings is anticipated in Q4 2022, but not carried out in time to inform the final drafting of this chapter.

Non-statutory Consultation - January / February 2021

10.3.35 RED carried out a Non-statutory Consultation exercise for a period of four weeks from 14 January 2021 to 11 February 2021. This consultation exercise aimed to engage with a range of stakeholders including the prescribed and non-prescribed consultation bodies, local authorities, Parish Councils and general public with a view to introducing the Proposed Development and seeking early feedback on the emerging designs.

10.3.36 The key themes emerging from Non-statutory Consultation in January 2021 relating to commercial fisheries are:

- lack of information presented for offshore in relation to species and areas of conservation importance; and concerns over the potential impacts on the local fishing industry.

Statutory consultation

10.3.37 Rampion 2's first Statutory Consultation Exercise ran from 14 July to 16 September 2021, a period of nine weeks. The PEIR (RED, 2021) was published as part of Rampion 2's first statutory consultation exercise which provided preliminary information on shipping and navigation within Chapter 10: Commercial fisheries (RED, 2021).

10.3.38 Following feedback to the Statutory Consultation exercise in 2021 it was identified that some coastal residents did not receive consultation leaflets as intended. Therefore, the first Statutory Consultation exercise was reopened between 7 February 2022 to 11 April 2022 for a further nine weeks. The original PEIR published as part of the first Statutory Consultation exercise in 2021 was unchanged and re-provided alongside the reopened Statutory Consultation exercise in early 2022.

10.3.39 The following statutory consultation exercises focussed on changes made to the onshore cable route, onshore substation, and National Grid interface point and did not consider offshore aspects of the Proposed Development.

10.3.40 The second Statutory Consultation exercise was undertaken from 18 October 2022 to 29 November 2022. This was a targeted consultation which focused on updates to the onshore cable route proposals which were being considered following feedback from consultation and further engineering and environmental works. As part of this second Statutory Consultation exercise, RED sought feedback on the potential changes to the onshore cable route proposals to inform the onshore design taken forward to DCO application.

10.3.41 The third Statutory Consultation exercise was undertaken from 24 February 2023 to 27 March 2023. This was a targeted consultation which focused on a further single onshore cable route alternative being considered following feedback from consultation and further engineering and environmental works. As part of this third Statutory Consultation exercise, RED sought feedback on the potential changes to the onshore cable route proposals to inform the onshore design taken forward to DCO Application.

10.3.42 The fourth Statutory Consultation exercise was undertaken from 28 April 2023 to 30 May 2023. This was a targeted consultation which focused on the proposed extension works to the existing National Grid Bolney substation to facilitate the connection of the Rampion 2 onshore cable route into the national grid electricity infrastructure. As part of this fourth Statutory Consultation exercise, RED sought feedback on the proposed substation extension works to inform the onshore design taken forward to the DCO Application.

10.3.43 **Table 10-6** provides a summary of the key themes of the feedback received in relation to commercial fisheries and outlines how the feedback has been considered in this ES chapter. A list of comments received during the formal consultation period and the response to comments is provided in the **Consultation Report** (Application Reference Number 5.1).

Table 10-6 Formal consultation feedback

Stakeholder	Theme	How this is addressed in this ES
NFFO	Regarding the assessed impact: Physical presence of Rampion 2 array area infrastructure leading to reduction in access to, or exclusion from established fishing grounds. For the purpose of a worst-case scenario applied in the assessment, the extent of maintenance operations including Service Operation Vehicle (SOV) operations should be defined, and the application of safety zones related to these operations.	Impact assessment assumes that during the operation and maintenance phase, there will be temporary 500m safety zones around major maintenance works (see **Paragraph 10.6.24**). Whilst the Operation and Maintenance Strategy is not yet finalised, it is assumed that major maintenance works could be undertaken by a variety of vessels including Service Operations Vessels, Jack Up Vessels and Heavy Lift Vessels.
NFFO	Regarding the assessed impact: Physical presence of Rampion 2 array area infrastructure leading to reduction in access to, or exclusion from established fishing grounds. The assessment notes the lack of certainty that towed gear fisheries will resume within the confines of the array (**paragraph 10.10.14**). The baseline report does, however, provide evidence on the spatial distribution of activities that suggests that vessels using bottom towed gears are avoiding the Rampion 1 project area. This tallies with views brought to our attention by local fishing businesses.	The assessment assumes that fishing will resume post-construction around and between infrastructure within Rampion 2 where possible, with the exception of an assumed 50m operating distance from infrastructure, areas of cable protection, and safety zones around infrastructure undergoing major maintenance or replacement (see **Paragraph 10.6.24**). Furthermore, the individual decisions made by skippers with their own perception of risk will determine the likelihood of whether their fishing will resume within Rampion 2, and it is observed that Rampion 2 minimum turbine spacing (**Table 10-11**) exceeds that for Rampion 1 (750m). Inclement weather will be a significant contributor to this risk perception. In addition, it is acknowledged that certain gear types including trawls will not be practically deployed within the operational array (see **paragraph 10.10.5**).
	Regarding the assessed impact: Physical presence of Rampion 2 array area infrastructure	As detailed immediately above, the assessment assumes that fishing will resume post-construction around and

Stakeholder	Theme	How this is addressed in this ES
	leading to reduction in access to, or exclusion from established fishing grounds. Given this situation, it will be important that greater certainty can be provided about the prospects for fishing resuming post construction. It is suggested therefore that fishing trials are included as part of the post construction mitigation to provide assurance that activity may resume.	between infrastructure within Rampion 2 where possible. As confirmed by environmental measure C-45 (see **Section 10.7**), final details of cable burial and protection will be set out in a Cable Specification and Installation Plan, to be developed post-consent and shared with the fishing industry. The Plan will confirm the intention to undertake post-installation surveys of cables to confirm cable burial, and that any areas of cable protection will be notified to fishermen.
NFFO	It is recommended that the spatial analysis of fishing activity covers more than one year's worth of spatial data (currently 2017).	The description of baseline conditions (**Section 10.6, Appendix 10.1: Commercial fisheries baseline technical report, Volume 4** of the ES (Document Reference: 6.4.10.1)) has been updated since PEIR stage to consider multiple years of Vessel Management System (VMS) spatial data, and also include more recently available 2018 and 2019 VMS data. Latest landings statistics for 2020 have also been incorporated into the description of baseline conditions, with landings data for the period 2016 to 2020 analysed and presented alongside other baseline data sources, such as IFCA patrol sightings data. The baseline characterisation is considered to be in line with best practice and fit for the purposes of undertaking EIA.
NFFO	Regarding the assessed impact: Physical presence of Rampion 2 array area infrastructure leading to reduction in access to, or exclusion from established fishing grounds. A transparent, evidence-based process should exist to handle disruption and loss of access to	RED has prepared an **Outline Fisheries Liaison and Coexistence Plan** (Document Reference: 7.19) that confirms the approach to ongoing liaison with the fishing industry. The Plan will be finalised post-consent. RED is committed to ongoing liaison with fishermen, based upon FLOWW (2014, 2015) guidance. With respect

Stakeholder	Theme	How this is addressed in this ES
	fishing grounds applying both to static and mobile gear fishing operations.	to any cooperation agreements and associated payments, the procedures as outlined in the FLOWW guidance documents (2014 and 2015) (C-90), will be followed, as described in **paragraphs 10.9.19** and **10.9.40**.
NFFO	Regarding assessed impact: Physical presence of Rampion 2 array area infrastructure leading to gear snagging. It is noted that this impact is assessed in terms of sensitivity, magnitude and significance. As this is safety matter, it is our view that it is more appropriate to treat the matter as a safety risk and use risk criteria as applied in the navigation impact assessment where the objective is to attain as low as reasonably practicable (ALARP) based management. It follows, therefore, that mitigation measures are defined in terms of meeting ALARP obligations.	As explained in **paragraph 10.10.58**, the commercial fisheries assessment considers the impact in terms of potential damage to, or loss of, fishing gear (and resulting implications on costs to fishermen). The health and safety aspects including potential loss of life as a result of snagging risk are assessed within the Shipping and Navigation assessment (see **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13)). Embedded environmental measures (see **Table 10-12**) will ensure that the location of Rampion 2 works and infrastructure are appropriately notified to the fishing community, and that where a snagging incident occurs, appropriate procedures are followed.
NFFO	Regarding assessed impact: Physical presence of Rampion 2 array area infrastructure leading to gear snagging. The assessment is underpinned by assumptions about adequate notification of locations of any snagging hazards and avoiding indicated infrastructure and cable protection (10.10.59). For these assumptions to hold true it will be necessary that: • Best practice is followed in the installation of cables. It is our view that cable array design should be part of the	Maintaining the integrity of the cable is a fundamental priority for RED. Cable layouts will seek to avoid physical constraints. To minimise the potential for interaction with fishing gear, cables will be buried wherever practicable (see **Section 10.6.24**) with target burial depth being defined post-consent, based on cable burial risk assessment. Post-installation surveys will be undertaken to confirm burial to the target depth. Where burial depth is not achieved, cable protection will be applied. As confirmed by environmental measure C-45, final cable burial and protection details will

Stakeholder	Theme	How this is addressed in this ES
	process to minimise risk where routing is designed to minimise the occurrence of potential interactions with fishing gears e.g. by bundling cables that cross predominant fishing tows through the site. This is not presently covered under embedded mitigation. • Best practice takes place with respect to cable burial via cable burial risk assessment installation of protection measures, and post installation verification.	be set out in a Cable Specification and Installation Plan, to be developed post-consent and shared with the fishing industry.
NFFO	The production of a Fisheries Liaison and Coexistence Plan that is submitted as part of the DCO is welcome which should include all relevant mitigation, communication/liaison provisions and arrangements for managing project operations in relation to fishing activities in the area.	RED has prepared an outline Fisheries Liaison and Coexistence Plan confirms the approach to ongoing liaison with the fishing industry. The Plan will explore options to encourage co-existence and further mitigate any significant effects upon fisheries. The Plan will be finalised post-consent.
MMO	The MMO highlights that there is a new Sussex IFCA byelaw that has restricted the activity of trawling in close inshore waters. This trawling exclusion area falls short of Kingmere MCZ and now leaves a corridor where fishing activity might be displaced. With the increase in size of Rampion this may cause further distress to the local fishing industry and this should be highlighted within the ES.	The introduction of the Nearshore Trawling Byelaw in 2019 is noted. Baseline data accessed to inform **Section 10.6** and **Appendix 10.1: Commercial fisheries baseline technical report, Volume 4** of the ES (Document Reference: 6.4.10.6), incorporates landings statistics from 2020 and VMS data from 2019, thus capturing the effects on the introduction of the byelaw on commercial fisheries activity.
MMO	Consultation to local fisherman within Worthing, Shoreham and Brighton Marina and organisations such as 'Brighton	Engagement with local fishermen has been undertaken, and includes meetings direct with individual stakeholders, and fisheries working

Stakeholder	Theme	How this is addressed in this ES
	and Newhaven Fish Sales (BNFS)' and 'Monteums' should be contacted to provide an opinion from the fishing industry. In Volume 2 Chapter 10 it states they have been in consultation with BNFS however other local industry should be contacted.	group meetings. Engagement with working groups is ongoing. The local fishermen and organisations referred to by the MMO have been engaged by RED, as describes earlier in **Section 10.3**.
Sussex IFCA	While the Sussex IFCA has only been invited to participate in the Fish Ecology ETG and not any fisheries working groups informing the process, we welcome the informal consultation meeting sought by developers and subsequent utilisation of our activity, effort and Shellfish Permit catch returns data to help inform potential commercial fisheries impacts within the PEIR.	The description of baseline conditions (**Section 10.6, Appendix 10.1: Commercial fisheries baseline technical report, Volume 4** of the ES (Document Reference: 6.4.10.1)) has drawn on the IFCA data sources referred to.
Sussex IFCA	The shallow coastal waters off Sussex host some of the most significant commercial fisheries in the UK. Full consideration of potential impacts on these fisheries is key and it is imperative that the developer works closely with the industry to minimise potential effects.	Potential impacts are fully considered in **Section 10.9 to Section 10.14**.
Sussex IFCA	Baseline datasets: The Authority agree that the PEIR considers all relevant conservation, ecologically and commercially important species. Baseline data sources and the nature of commercial fisheries activity in the Study Area were discussed with the IFCA, who agreed that the baseline data presented to them in the meeting was representative of fishing activity in the Study	Sussex IFCA's agreement that the baseline datasets used are appropriate is acknowledged and welcomed. The description of baseline conditions is presented in **Section 10.6** and **Appendix 10.1: Commercial fisheries baseline technical report, Volume 4** of the ES (Document Reference: 6.4.10.1)). Baseline data sources include most current VMS and landings data, and where available, datasets that incorporate the construction and

Stakeholder	Theme	How this is addressed in this ES
	Area. It was discussed and agreed that understanding the extent to which fishing has continued in the existing Rampion 1 project area should help frame the Rampion 2 impact assessment.	operational phases of Rampion 1 have been used. Marine traffic survey data has also been referenced to consider levels of fishing activity in operational Rampion 1.
Sussex IFCA	Baseline datasets: In addition to commercial fisheries fleets, the IFCA has previously highlighted the level of activity by local recreational and charter angling vessels which comprise an important industry within Sussex, and requires due consideration in any impact assessments and subsequent mitigation considerations.	Recreational fishing and charter angling businesses are addressed in **Chapter 7: Other marine users, Volume 2** of the ES (Document Reference: 6.2.7).
Sussex IFCA	Likely significant effects: Sussex IFCA refers to our comments in relation to the fish ecology chapter and potential revisiting of significance assessments for selected species, which may impact the current minor adverse effect conclusions for all commercial fisheries.	Relevant elements of the commercial fisheries impact assessment presented in **Section 10.9 to Section 10.11** have been updated to reflect revisions to the Fish and Shellfish Ecology assessment presented in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8).
Sussex IFCA	Likely significant effects: Vanstaen et al (ibid) provides evidence, and a framework, through which to consider cumulative impacts and may be interpreted to suggest (using Sussex case studies) that certain fishing vessels are particularly economically susceptible to losses of fishing opportunity. The likely impact on certain operators based upon cumulative effects, may therefore be significant and need to be fully explored.	The commercial fisheries assessment considers the potential for reduction in access to, or exclusion from established fishing grounds and displacement leading to gear conflict and increased fishing pressure on established fishing grounds resulting from cumulative effects (see **Section 10.12**). Effects are assessed at fleet level, rather than at individual vessel level. Where there are potential significant effects on individual operators, approaches to managing these will be explored via the Fisheries Liaison and Co-existence Plan.

Stakeholder	Theme	How this is addressed in this ES
Sussex IFCA	Mitigation: The Authority notes and supports the commitment to explore options to encourage co-existence and further mitigate effects, including cooperation agreements and associated payments where a significant impact has been identified.	RED has prepared an **Outline Commercial Fisheries Liaison and Co-existence Plan** (Document Reference: 7.19) that confirms the approach to ongoing liaison with the fishing industry. The Plan will explore options to encourage co-existence and further mitigate any significant effects upon fisheries. The Plan will be finalised post-consent.
Leach Fishing Enterprises	Rampion 2 is proposing to:- Displacing existing fishing activities from the new windfarm site, many of which were already displaced into this area due to Rampion 1, to fishing grounds more vulnerable to damage or less safe to fish in for inshore vessels.	The commercial fisheries assessment considers the potential for displacement (see **Section 10.9 to Section 10.14**). RED will seek to ensure that exclusion impacts are appropriately mitigated to minimise the displacement effect (see **paragraphs 10.9.51** and **10.9.71**); RED has prepared an **Outline Commercial Fisheries Liaison and Co-existence Plan** (Document Reference: 7.19) that confirms the approach to ongoing liaison with the fishing industry. The Plan will explore options to encourage co-existence and further mitigate any significant effects upon fisheries. The Plan will be finalised post-consent.
Leach Fishing Enterprises	Rampion 2 is proposing to:- Add to the cumulative effect of areas not available to other sea users (MCZs, MPAs, SPAs, Aggregate extraction sites, shipping lanes, IFCA managed areas, etc).	The commercial fisheries cumulative effects assessment (see **Section 10.12**) considers the reduction in access to, or exclusion from established fishing grounds; and displacement leading to gear conflict and increased fishing pressure on established fishing grounds that may arise from all reasonably foreseeable plans and projects, in accordance with Planning Inspectorate guidance.
Leach Fishing Enterprises	Displacement of other sea users from the proposed site is given only a cursory mention in this proposal. This current displacement effect, coupled	The commercial fisheries assessment considers the potential for displacement at a project level and within the cumulative assessment (see **Section 10.9 to Section 10.14**).

Stakeholder	Theme	How this is addressed in this ES
	with that from Rampion 1 site, the MCZ, MPA, aggregate extraction sites, shipping lanes and IFCA managed areas, leaves very little space for other sea users, yet is largely denied by this documentation. Displacement must be taken seriously and is a legal requirement to do so.	RED will seek to ensure that exclusion impacts are appropriately mitigated to minimise the displacement effect (see **paragraphs 10.9.51** and **10.9.71**); RED has prepared an **Outline Commercial Fisheries Liaison and Co-existence Plan** (Document Reference: 7.19) that confirms the approach to ongoing liaison with the fishing industry. The Plan will explore options to encourage co-existence and further mitigate any significant effects upon fisheries. The Plan will be finalised post-consent. Potential displacement effects on other sea users are assessed in **Chapter 7: Other Marine Users, Volume 2** of the ES (Document Reference: 6.2.7).
Selsey fisherman	The western corner of the search area is very hard rock which is some of our best fishing ground for lobster and crab; drilling through this rock is a big concern as many fisherman rely on this area to earn a living, also the damage it will cause to the reef is a big concern for future fishing; 10meters of ground disturbance per turbine is a lot of ground lost. As one chair sized rock can house possibly 50 small lobsters and countless crabs plus the food that they eat.	Potential effects on commercial fisheries activity resulting from exclusion in the footprint of Rampion 2 infrastructure are assessed in **Section 10.9** to **Section 10.14**. Specific to the potting fishery, this is noted as being of potential moderate adverse significance during the construction phase and RED will seek to ensure that exclusion impacts are appropriately mitigated (see **paragraphs 10.9.51** and **10.9.71**); RED has prepared an **Outline Commercial Fisheries Liaison and Co-existence Plan** (Document Reference: 7.19) that confirms the approach to ongoing liaison with the fishing industry. The Plan will explore options to encourage co-existence and further mitigate any significant effects upon fisheries (this will include consideration of cooperation agreements and associated payments where appropriate). The Plan will be finalised post-consent.

Stakeholder	Theme	How this is addressed in this ES
		Potential impacts on commercial fisheries resulting from Rampion 2 activities leading to disturbance of commercially important fish and shellfish resources (in turn leading to displacement or disruption of fishing activity) are also assessed in **Section 10.9** to **Section 10.14**, which concludes that they may result in an effect of minor adverse significance for the potting fleet. Ecological effects associated with habitat loss are assessed in **Chapter 9: Benthic and intertidal ecology, Volume 2** of the ES (Document Reference: 6.2.9) and **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8). Studies investigating the effects of offshore wind farm development on the lobster population and catch rates at Westermost Rough offshore wind farm have indicated no long-term effect of the wind farm on lobster catch rates or size distribution; see **paragraph 10.10.10** for further detail.
Selsey fisherman	I have concerns as to where all of the fishing boats that fish within this area are going to relocate their pots, as the further west that we go there is more tide, and during the winter months some very large ground swells, which combined with tide and strong winds destroys our rope and pots, this will have a significant financial impact on the fishermen. The ground running south of the Hooe bank is vital to keep our pots safe as well, as some of the ground east of the rectangle in the chart attached especially in very stormy winters. It is a very big concern.	The commercial fisheries assessment considers the potential for displacement (see **Section 10.9** to **Section 10.14**). RED will seek to ensure that exclusion impacts are appropriately mitigated to minimise the displacement effect (e.g. such that displaced pots are not actively deployed during the period of mitigation or if deployed, they are done so in a manner that avoids or minimises gear interaction; see **paragraphs 10.9.51** and **10.9.71**); RED has prepared an **Outline Commercial Fisheries Liaison and Co-existence Plan** (Document Reference: 7.19) that confirms the approach to ongoing liaison with the

Stakeholder	Theme	How this is addressed in this ES
		fishing industry. The Plan will explore options to encourage co-existence and further mitigate any significant effects upon fisheries. The Plan will be finalised post-consent.
Selsey fisherman	We are also concerned on the time it will take to construct the wind farm and how long we will need to vacate each area.	The anticipated maximum construction duration is four years (see **Section 10.7**), with construction activities completed sequentially. During construction of Rampion 2, commercial fisheries will be prevented from fishing where construction activities are taking place (i.e. not throughout the entire Rampion 2 area). In addition, Safety Zones of 500m diameter will be sought around significant infrastructure under construction. The impact of this exclusion is assessed in **Section 10.9 to Section 10.14**; potentially significant effects on the potting fishery during the construction phase are noted and measures that will be put in place to mitigate the effect are described RED has prepared an **Outline Commercial Fisheries Liaison and Co-existence Plan** (Document Reference: 7.19) that confirms the approach to ongoing liaison with the fishing industry. The Plan will explore options to encourage co-existence and further mitigate any significant effects upon fisheries (this will include consideration of cooperation agreements and associated payments where appropriate). The Plan will be finalised post-consent.
Selsey fisherman	Another concern is displacement from other vessels.	The commercial fisheries assessment considers the potential for displacement (see **Section 10.9** to **Section 10.14**). RED will seek to ensure that exclusion impacts are appropriately

Stakeholder	Theme	How this is addressed in this ES
		mitigated to minimise the displacement effect (e.g. such that displaced pots are not actively deployed during the period of mitigation or if deployed, they are done so in a manner that avoids or minimises gear interaction; see **paragraphs 10.9.51** and **10.9.71**); RED has prepared an **Outline Commercial Fisheries Liaison and Co-existence Plan** (Document Reference: 7.19) that confirms the approach to ongoing liaison with the fishing industry. The Plan will explore options to encourage co-existence and further mitigate any significant effects upon fisheries. The Plan will be finalised post-consent.
Selsey fisherman	Access after completion of the wind farm should it go ahead.	It is expected that potting activity will resume within Rampion 2 (see **Section 10.7**).
Selsey fisherman	How will the cables be covered or buried that go from the wind farm to the shore, as they are proposed positioning is straight through our spring netting ground where we fish for sole, plaice, brill etc.	As confirmed in **Section 10.7**, cables will be buried wherever possible to a target depth confirmed by cable burial risk assessment. Where burial to target depth is not possible, cable protection will be applied.; maximum assumptions regarding this requirement are presented in **Table 10-11**. As confirmed by environmental measure C-45, cable burial and protection will be set out in a Cable Specification Plan, to be developed post-consent.
Selsey fisherman	My brother and I have been fishing from Selsey for over 20 years catching lobster crab whelks and fish. The nature of the seabed there makes it the perfect habitat place for lobsters and crabs to live and breed.	The importance of these fisheries is captured in the commercial fisheries baseline presented in **Section 10.6**.
Selsey fisherman	Each wind turbine has to be piled into the seabed, from what	Potential effects on commercial fisheries activity resulting from

Stakeholder	Theme	How this is addressed in this ES
	I gather a circumference of 10 meters around is needed to fix the turbine down, a huge part of the seabed getting destroyed. This cannot be good for nature??	exclusion in the footprint of Rampion 2 infrastructure are assessed in **Section 10.9** to **Section 10.14**. Potential impacts on commercial fisheries resulting from Rampion 2 activities leading to disturbance of commercially important fish and shellfish resources (in turn leading to displacement or disruption of fishing activity) are also assessed in **Section 10.9** to **Section 10.14**. Ecological effects associated with habitat loss are assessed in **Chapter 9: Benthic and intertidal ecology, Volume 2** of the ES (Document Reference: 6.2.9) and **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8).
Selsey fisherman	As this proposed area is our main fishing location where would we move too? We fish all over the place, depending on the time of the year and weather. There are only certain areas where we could re locate our lobster pots due to storms and being safe so displacement of other fishing vessels would be a huge factor all being pushed on top of each other causing havoc.	The commercial fisheries assessment considers the potential for displacement (see **Section 10.9** to **Section 10.14**). RED will seek to ensure that exclusion impacts are appropriately mitigated (the Fisheries Liaison and Co-existence Plan will explore options to encourage co-existence and further mitigate the effect of exclusion on potting, including cooperation agreements and associated payments where appropriate) to minimise the displacement effect, e.g. such that displaced pots are not actively deployed during the period of mitigation (e.g. left open, or stored on land), or if deployed, they are done so in a manner that avoids or minimises gear interaction.
Selsey fisherman	Will we be able to fish back between the turbines once completed and also will there be any extra rules that we will have to abide by?	It is expected that potting activity will resume within Rampion 2 (see **Section 10.7** and **paragraph 10.10.5**). The assessment assumes that fishing will resume around and between infrastructure within

Stakeholder	Theme	How this is addressed in this ES
		Rampion 2 where possible, with the exception of an assumed 50m operating distance from infrastructure, areas of cable protection, and safety zones around infrastructure undergoing major maintenance or replacement. Furthermore, the individual decisions made by skippers with their own perception of risk will determine the likelihood of whether their fishing will resume within Rampion 2.
Selsey fisherman	Has lobster and crab fisheries declined at all after previous wind farms being erected??	Specific to Rampion 1, landings data and IFCA shellfish permit catch data indicate fluctuations in landings of crab and lobster across the wind farm construction and operational phases (Rampion 1 was constructed between 2016 and 2018, and became operational in 2018). Across the period 2015 to 2019, landings of lobster have gradually declined each year and landings of crabs have fluctuated, being at their lowest in 2015 and at their peak in 2016. These trends cannot be directly attributed to wind farm construction and operation, and can be influenced by a number of factors (e.g. market demand). Stock status reports indicate that exploitation of the lobster stock off the south coast is moderate and that the status of the stock has improved between 2017 and 2019. The status of the brown crab stock in the eastern English Channel is unknown. Studies investigating the effects of offshore wind farm development on the lobster population and catch rates at Westermost Rough offshore wind farm have indicated no long-term effect of the wind farm on lobster catch rates or size distribution; see **paragraph 10.10.10** for further detail.

10.4 Scope of the assessment

Overview

10.4.1 This section sets out the scope of the ES assessment for commercial fisheries. This scope has been developed as Rampion 2 design has evolved and responds to feedback received to-date as set out in **Section 10.3**.

Spatial scope and study area

10.4.2 Rampion 2 is located within the northern portion of the International Council for the Exploration of the Sea (ICES) Division 7d (eastern English Channel) statistical area; within the UK Exclusive Economic Zone (EEZ) waters, with the array area located outside the six nautical mile (NM) limit (noting that UK vessels have exclusive fishing rights between 0 and 6NM, and the jurisdiction of the Sussex Inshore Fisheries and Conservation Authority extends to 6NM). The majority of the array area is located between the six to 12NM limits, with a small portion located outside the 12NM limit. For the purpose of recording fisheries landings, ICES Division 7d is divided into statistical rectangles which are consistent across all Member States operating in the English Channel.

10.4.3 The study area is defined as ICES rectangle 30E9 as shown in **Figure 10.1, Volume 3** of the ES (Document Reference: 6.3.10) noting that Rampion 2 occupies only a portion of this ICES rectangle, equating to 11% of the surface area (noting that the Rampion 2 PEIR (RED, 2021) Assessment Boundary occupied 14%). Where relevant, commercial fisheries activity in adjacent ICES rectangles is also described and considered in this chapter.

10.4.4 Consultation and engagement to date indicates that this Study Area is deemed appropriate for the purposes of impact assessment.

10.4.5 Given the range of commercial fisheries stakeholders considered in this chapter, and the scale of geographic coverage of their activities, the commercial fisheries study area for the cumulative effects assessment (**Section 10.12**) is defined as the eastern English Channel, as aligned with ICES Division 7d.

Temporal scope

10.4.6 The temporal scope of the assessment for commercial fisheries is consistent with the period over which Rampion 2 will be carried out and therefore covers the construction (around four years), operational (around 30 years) and decommissioning periods as described in **Chapter 4: The Proposed Development, Volume 2** of the ES (Document Reference: 6.2.4).

Potential receptors

10.4.7 The spatial and temporal scope of the assessment enables the identification of receptors which may experience a change as a result of Rampion 2. The receptors identified that may experience likely significant effects for commercial fisheries are outlined in **Table 10-7**. These receptors have been identified based on desktop analysis of baseline data and consultation has validated this list.

Table 10-7 Receptors requiring assessment for commercial fisheries

Receptor group	Receptors included within group
Potting fleet (i.e. vessels fishing with pots and traps)	UK fishing vessels targeting whelk, cuttlefish, crab and lobster.
Dredging fleet (i.e. vessels fishing with dredges)	UK, French and Irish fishing vessels targeting scallop.
Netting fleet (i.e. vessels fishing with nets)	UK fishing vessels targeting species including bass, rays, sole and plaice.
Beam trawl fleet (i.e. vessels fishing with beam trawls)	UK and Belgian fishing vessels targeting species including plaice and sole.
Demersal otter trawl fleet (i.e. vessels fishing with demersal trawls)	UK and French fishing vessels targeting a variety of species including whiting, bream, horse mackerel and mackerel.
Pelagic trawl fleet (i.e. vessels fishing with pelagic trawls)	Dutch and German fishing vessels targeting highly mobile species such as horse mackerel and herring.

Potential effects

10.4.8 Potential effects on commercial fisheries receptors that have been scoped in for assessment are summarised in **Table 10-8**. The effects have the potential to occur across all phases of the Proposed Development (i.e. during construction, during operation and maintenance, and during decommissioning) unless otherwise indicated in **Table 10-8**.

10.4.9 As stated in **Section 10.3**, whilst the Scoping Opinion agreed with the proposed scoping out of the potential impact of 'additional steaming to alternate fishing grounds', subsequent consultation has indicated that some stakeholders are concerned about the effects of Rampion 2 on steaming to alternate fishing grounds. RED acknowledge that this potential impact merits further consideration and thus it has been scoped back into assessment.

Table 10-8 Potential effects on commercial fisheries receptors scoped in for further assessment.

Receptor	Activity or impact	Potential effect
Construction, Operation and Maintenance, decommissioning		
All fishing fleets	Reduction in access to, or exclusion from	Construction / operation and maintenance / decommissioning activities and physical presence of

Receptor	Activity or impact	Potential effect
	established fishing grounds	constructed Rampion 2 infrastructure leading to reduction in access to, or exclusion from established fishing grounds. Potential for some loss of fishing opportunities.
	Displacement leading to gear conflict and increased fishing pressure on adjacent grounds	Construction / operation and maintenance / decommissioning activities and physical presence of constructed Rampion 2 infrastructure leading to displacement from the Rampion 2 array area and offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds.
	Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity	Array area and offshore cable corridor construction / operation and maintenance / decommissioning activities leading to disturbance of commercially important fish and shellfish resources and therefore displacement or disruption of fishing activity.
	Increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity	Movement of vessels associated with Rampion 2 construction / operation and maintenance / decommissioning activities adding to the existing volume of marine traffic in the area, leading to interference of fishing activity.
	Additional steaming to alternative fishing grounds for vessels	Construction / operation and maintenance / decommissioning activities

Receptor	Activity or impact	Potential effect
	that would otherwise fish within the Rampion 2 area	and physical presence of constructed Rampion 2 infrastructure leading to deviations to fishing vessel steaming routes, with time and cost implications.
Operation and maintenance phase only		
	Physical presence of infrastructure leading to gear snagging	Physical presence of constructed Rampion 2 infrastructure posing a snagging risk to fishing gear.

Activities or impacts scoped out of assessment

10.4.10 No potential effects have been scoped out from further assessment.

10.5 Methodology for baseline data gathering

Overview

10.5.1 Baseline data collection has been undertaken to obtain information over the study areas described in **Section 10.4: Scope of the assessment**. The current baseline conditions presented in **Section 10.6: Baseline conditions** sets out data currently available information from the study area.

Desk study

10.5.2 The data sources that have been collected and used to inform this commercial fisheries assessment are summarised in **Table 10-9**. As well as UK data sources, data has been sourced from a number of European fisheries bodies. Relevant literature from a number of additional sources has also been reviewed and is appropriately referenced throughout **Section 10.6**. No site surveys specific to commercial fisheries have been undertaken.

Table 10-9 Data sources used to inform the commercial fisheries ES assessment.

Source	Date	Summary	Coverage of study area
MMO	2016 – 2020	Landings statistics data for UK-registered vessels, with data	Full coverage of study area

Source	Date	Summary	Coverage of study area
		query attributes for: landing year; landing month; vessel length category; ICES rectangle; vessel/gear type; port of landing; species; live weight (tonnes); and value	
MMO	2016 – 2019	VMS data for UK-registered vessels of 15m and over length	Full coverage of study area
Sussex IFCA	2015 - 2019	Maps of fishing effort within Sussex IFCA boundaries based on observed fishing activity during sea patrols	Partial coverage of study area (Sussex IFCA boundaries, out to 6NM)
European Union (EU) Data Collection Framework (DCF) database	2012 - 2016	Landings statistics for Belgian, Danish, Dutch, French, German and UK registered vessels with data query attributes for: landing year; landing quarter; ICES rectangle; vessel length; gear type; species; and, landed weight (tonnes)	Full coverage of study area
European Market Observatory for Fisheries and Aquaculture Products (EUMOFA)	2019	Price data for species landed by Belgian, Dutch, French and German registered vessels with data query attributes for: landing year; species; and price (Euros (€) per kilogram (kg))	Full coverage of study area
ICES	2017	VMS data for Belgian, Dutch, French and German registered	Full coverage of study area

Source	Date	Summary	Coverage of study area
		vessels of 12m and over in length	
Anatec	2019 - 2022	Marine traffic (AIS and radar) survey data based on a 14-day AIS, radar and visual survey in summer and winter 2020, a 14-day AIS, radar and visual survey in summer 2022, and longer-term AIS data for 2019 (see **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13)).	Full coverage of study area

Landings statistics

10.5.3 Landings data for all species are collected via the European Union (EU) logbooks scheme and recorded by ICES statistical rectangle and stored in the EU DCF database, accessible through the EU Joint Research Committee. Landings data has been collated for all EU Member States for the ICES statistical rectangle that overlap the Rampion 2 commercial fisheries study area. Landing statistics were collated across five years (2012 to 2016; this includes the period in which Rampion 1 construction commenced). Landing statistics include all landings by that country's nationally registered vessels into all ports. The following parameters were examined: year; season (quarter); gear type; ICES rectangle; species; effort (hours fished); and live weight (tonnes).

10.5.4 The EU DCF database does not provide first sales value or prices. The EUMOFA database was therefore assessed to provide first sale prices per country, species and year (i.e. an average price per year for each species and country from the EUMOFA database was correlated with the annual species landings per country in the EU DCF database in order to gain an estimate of first sales values).

10.5.5 The EU DCF and EUMOFA databases included landings by UK, Belgian, Danish, Dutch, French, German and Swedish registered vessels.

10.5.6 In addition to the EU DCF database, landing statistics for UK registered vessels were obtained from the MMO with the following parameters: year; month; gear type; ICES rectangle; species; live weight (tonnes) and first sales value (£) across a five-year period (2016 to 2020; this includes the period in which Rampion 1 was constructed and became operational).

10.5.7 In all cases, the most up-to-date publicly available landings data was sourced.

Vessel Monitoring System data

10.5.8 All EU fishing vessels (i.e. fishing vessels flying the flag of an EU Member State), and third-party fishing vessels operating in EU waters, that are ≥ 12m in length, are required to have a VMS on board. This reports the vessels' position to fisheries management authorities, in the case of EU fishing vessels, every two hours. Since 1 January 2012, this obligation has applied to vessels that are ≥ 12m in length (before 1 January 2012 it applied to vessels ≥ 15m in length, see Council Regulation (EC) No 1224/2009).

10.5.9 Through a European wide data call, ICES collated VMS data for vessels ≥ 12m operating mobile gear that has contact with the seabed. This VMS data set includes vessels registered to the following countries: Belgium, Denmark, France, Germany, the Netherlands, Norway, Ireland, Sweden and UK. Data are amalgamated for all countries and not available on a country-by-country basis; data from 2017 have been analysed.

10.5.10 Further annual VMS data are collated by the MMO for all vessels ≥15m registered to the UK, including all gear types. VMS data for UK vessels have been analysed for the period 2016 to 2019.

Data limitations

10.5.11 A range of different data limitations and uncertainty exist for all of the commercial fisheries datasets. The level of uncertainty and confidence of each data set is defined in **Table 10-10** based on judgement of the assessment team.

10.5.12 Limitations of landings data include the spatial size of ICES rectangles which can misrepresent actual activity across Rampion 2 and care is therefore required when interpreting these data.

10.5.13 It is noted that all commercial landings by UK registered vessels are subject to the Register of Buyers and Sellers legislation and therefore landings by UK vessels of all lengths are recorded within the MMO iFISH database. While it is recognised that there is no statutory requirement for owners of vessels 10m and under to declare their catches, registered buyers are legally required to provide sales notes of all commercially sold fish and shellfish due to the 2005 Registration of Buyers and Sellers of First-Sale Fish Scheme (RBS legislation) (MMO, 2021). The RBS legislation is applicable to licenced fishing vessels of all lengths and requires name and port letter and number of the vessel which landed the fish to be recorded in relation to each purchase. For the 10 metre and under sector, landing statistics are recorded on sales notes provided by the registered buyers (MMO, 2021).

10.5.14 Information that may not be formally recorded on the sales note, such as gear and fishing area, is added by coastal staff based on local knowledge of the vessels they administer - for example, from observations of the vessel during inspections at ports or from air and sea surveillance activities as well as discussions with the owner and/or operator of the vessel (MMO, 2021).

10.5.15 Lack of recent landings statistics for EU (non-UK) fleets is also recognised as a data limitation; based on the most recent European Commission data call, more recent landings data (2017 onwards) is no longer available by ICES rectangle. Data at a scale of ICES division (i.e. the whole of the eastern English Channel) is

less useful to understand fishing activity specific to the area overlapping Rampion 2.

10.5.16 Limitations of VMS data are primarily focused on the coverage being limited to larger vessels 12m (sourced from ICES) and 15m (sourced from MMO) and over. It is important to be aware that where mapped VMS data may appear to show inshore areas as having lower (or no) fishing activity compared with offshore areas, this is not necessarily the case because VMS data do not include vessels typically operating in inshore area (i.e. which typically comprises of vessels <15 m in length). To assist in mitigating the risk of under-representing smaller inshore vessels, site-specific marine traffic survey data gathered by Anatec and comprising information on vessel movements gathered by Automatic Identification System (AIS) and radar has been analysed alongside VMS data.

10.5.17 Limitations of IFCA patrol data are primarily focused on the frequency and spatial coverage of patrols. The data cannot be considered to give a complete picture of the actual level of activity and have a number of limitations, including the following:

- patrol efforts by IFCA vessels are localised for enforcement purposes and not collection of sightings data. Areas with fewer fisheries enforcement issues are therefore likely to be visited less often and result in lower data confidence;
- patrol data are only indicative of areas where fishing activities occur, as there is no continuous monitoring of activities;
- patrol data present a snapshot of activity in an area and it cannot be assumed that if no vessels have been sighted then no fishing takes place; and
- vessels fishing at night would likely remain undetected.

10.5.18 Data limitations have been managed by ensuring accurate interpretation of the data and clear understanding of its scope, together with cross-referencing between data sources and consultation with the fishing industry to confirm that the baseline is representative and fit for purpose. As data form only part of the evidence base, the limitations identified are not considered to significantly affect the certainty or reliability of the impact assessments in **Sections 10.9** to **10.11**.

Table 10-10 Data limitations and uncertainty (the uncertainty and confidence levels are defined based on judgement and are intended to inform the appropriateness of data used to inform the EIA)

Data source	Type of data	Limitations and uncertainty
Landings statistics		
MMO	Landings statistics data for UK-registered vessels (2016-2020).	The data is recorded from sales notes and landing declarations for all vessel lengths. Due to the UK legislation of Registration of Buyers and Sellers data is considered accurate and verifiable.

Data source	Type of data	Limitations and uncertainty
		• Data assessed with: low uncertainty and high confidence.
EU DCF	Landings statistics data for EU-registered vessels (2012-2016).	The data is submitted by individual member states and therefore limitations vary per country. Vessels under 10m may be omitted or mis-represented by the data. Accuracy is likely to be greater for landings from larger vessels. • For UK vessels under 10m length data is assessed with: high uncertainty and low confidence. • For all other EU vessels data is assessed with: low uncertainty and high confidence.
VMS and other spatial data		
MMO	UK-registered vessel VMS data for vessels ≥15m length (2016 to 2019).	The data is only available for 15m and over vessels, so is not representative of <15m vessels. Data assessed with: medium uncertainty and medium confidence.
ICES	EU-registered vessel VMS data for vessels ≥12m length (2017).	The data is only available for 12m and over vessels, so is not representative of <12m vessels. • Data assessed with: medium uncertainty and medium confidence.
Sussex IFCA	Patrol vessel observations of fishing vessels within Sussex IFCA boundaries (2015-2019).	Patrol data are gathered for enforcement purposes and may not be reflective of fishing activity. • Data is assessed with: high uncertainty and low confidence.
Anatec	Marine traffic (AIS and radar) survey data; see **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13).	An assessment undertaken into fishing vessel activity within the Navigational Risk Assessment (NRA) undertaken for Rampion 2. Based on a 14 day AIS, radar and visual survey in summer and winter 2020 and summer 2022, and longer-term AIS data for 2019.

Data source	Type of data	Limitations and uncertainty
		• Data assessed with: low uncertainty and high confidence.

10.6 Baseline conditions

Current baseline

Introduction

10.6.1 This section presents the existing baseline for commercial fisheries, using the most recent datasets available at the time of writing (2012-2016 for EU DCF data; 2016-2020 for MMO data; 2017 for ICES VMS data and 2016-2019 for MMO VMS data).

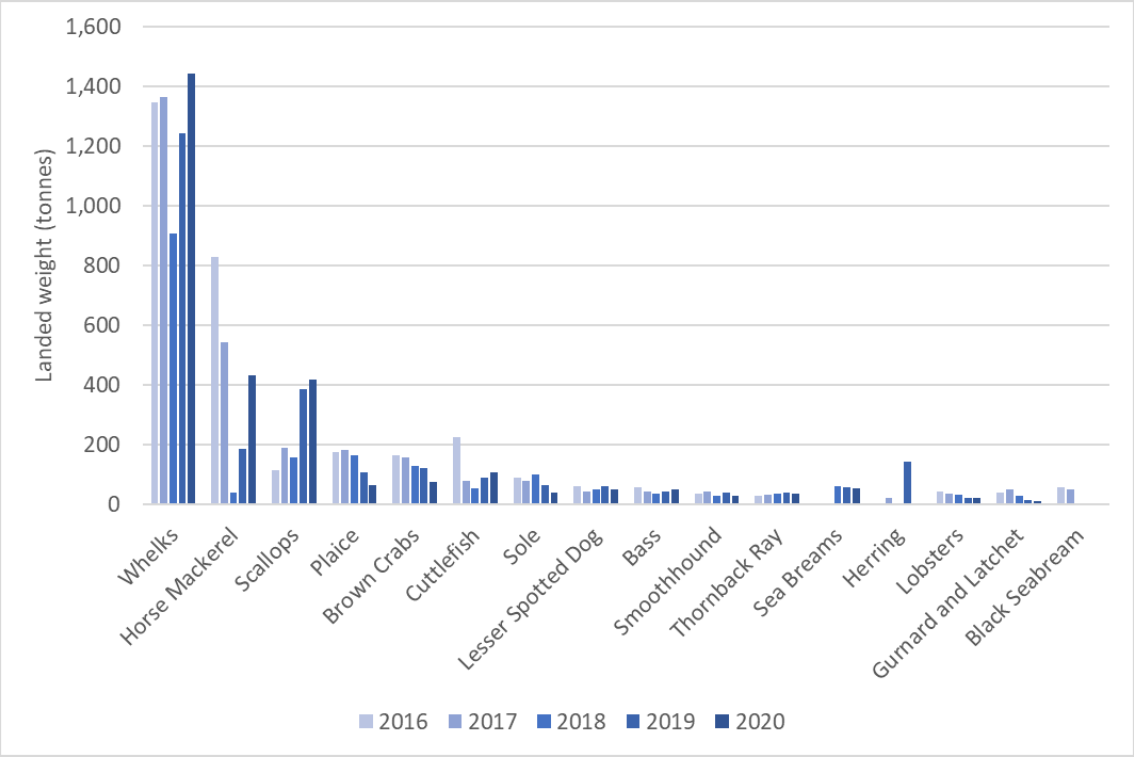
10.6.2 This section provides an overview of all landings from the Rampion 2 commercial fisheries study area (i.e. ICES rectangles 30E9) followed by analysis on a fishery-by-fishery basis, where details on the nationality of vessels, species caught, and location of fishing activity is provided.

10.6.3 This section should be read in conjunction with **Appendix 10.1: Commercial fisheries technical baseline report, Volume 4** of the ES (Document Reference: 6.4.10.1) which provides an extended description of baseline conditions, including fishing gear and vessel characteristics and profiles of fishing activity on a country basis.

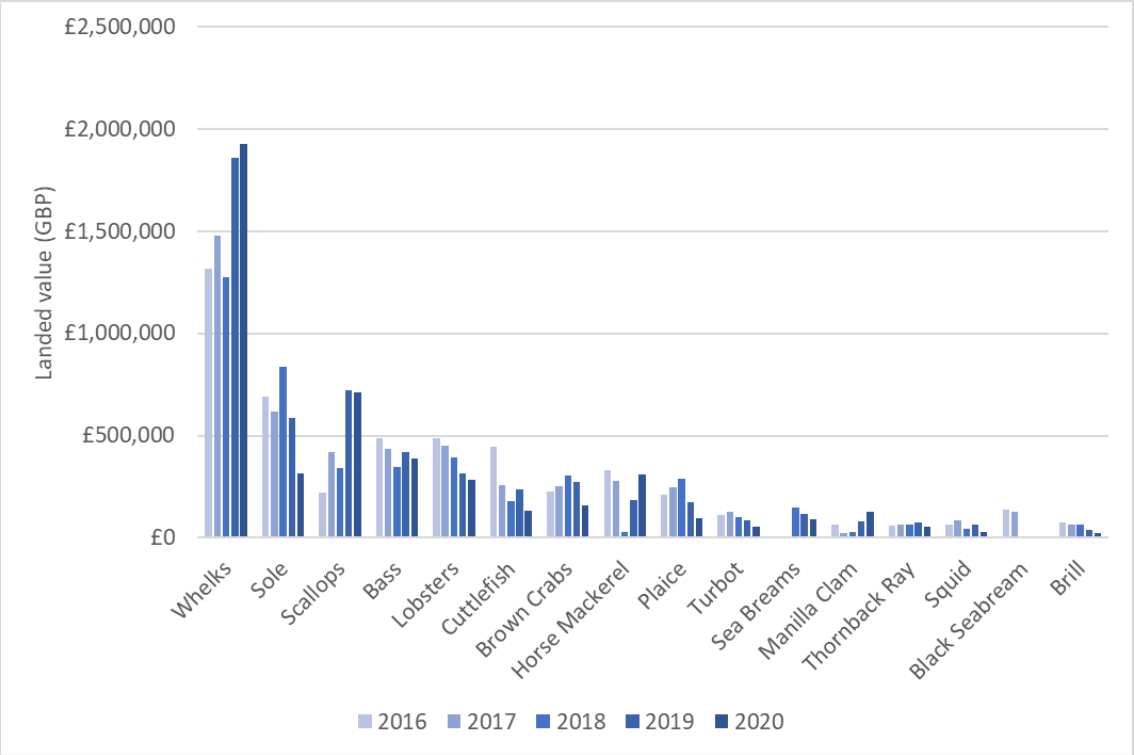
Overview of landings from the study area

10.6.4 An annual average value of £5.2 million is landed by all UK vessels for the years 2016 to 2020 from the study area ICES rectangle (based on data from MMO, 2021). Data are presented for the annual (2016-2020) landed weight and value by UK vessels in **Graphic 10-1** and **Graphic 10-2** respectively, indicating that whelk *Buccinum undatum*, King scallop *Pecten maximus*, sole *Solea solea* and plaice *Pleuronectes platessa*, bass *Dicentrarchus labrax*, brown crab *Cancer pagurus* and lobster *Homarus gammarus*, horse mackerel *Trachurus trachurus* and cuttlefish *Sepia officinalis* represent key fisheries in the study area.

Graphic 10-1 Key species by annual landed weight (tonnes) (2016 to 2020) from the study area (MMO, 2021)



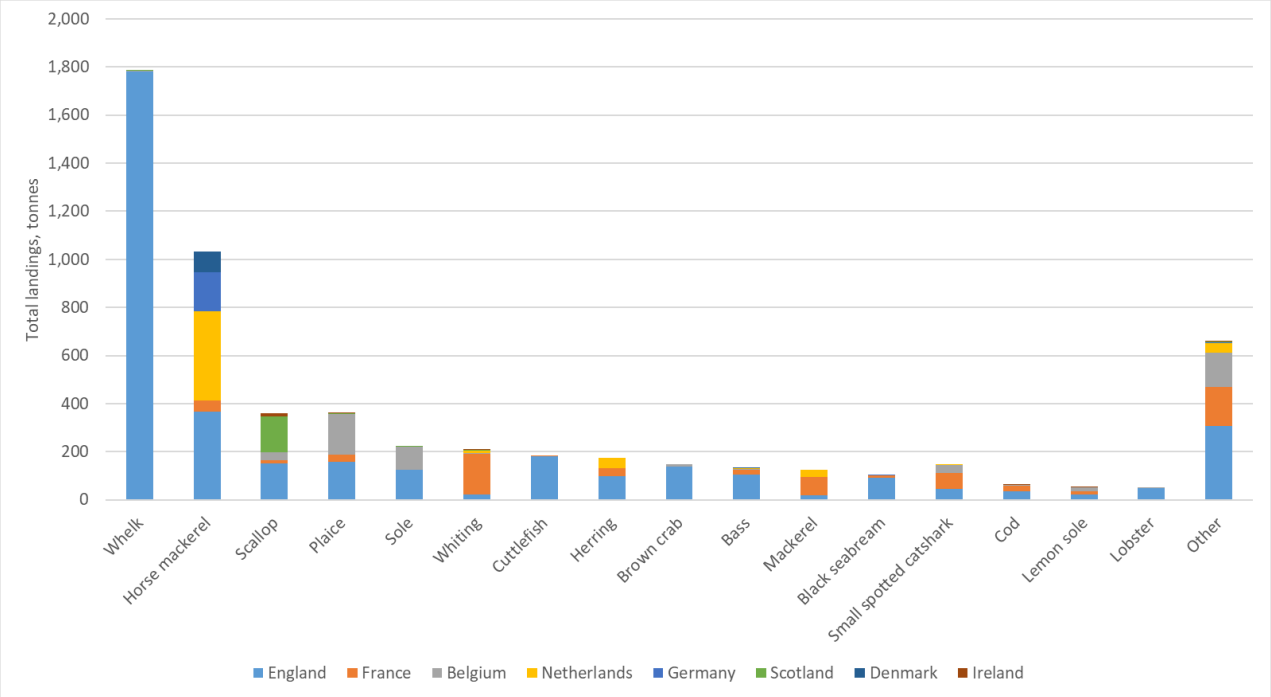
Graphic 10-2 Key species by annual landed value (GBP) (2016 to 2020) from the study area (MMO, 2021)



10.6.5 The average annual landings for the UK and all EU countries are presented in **Graphic 10-3**, based on data from 2012 to 2016. From 2017 onwards landings

data in the EU DCF database by country is not available by ICES rectangle, hence the presentation of data from 2012 to 2016 to ensure focus on the commercial fisheries study area. English vessels were responsible for the most significant portion (approximately 65%) of landings over this period. For non-UK vessels, the commercial fisheries study area is dominated by landings of horse mackerel, whiting *Merlangius merlangus*, and plaice, with average annual landings values by non-UK vessels of €650,000, €390,000 and €480,000 respectively. Vessels from the Netherlands, France and Belgium are responsible for the majority of landings from the study area by non-UK vessels, though data also indicates fishing activity by German, Danish and Irish vessels.

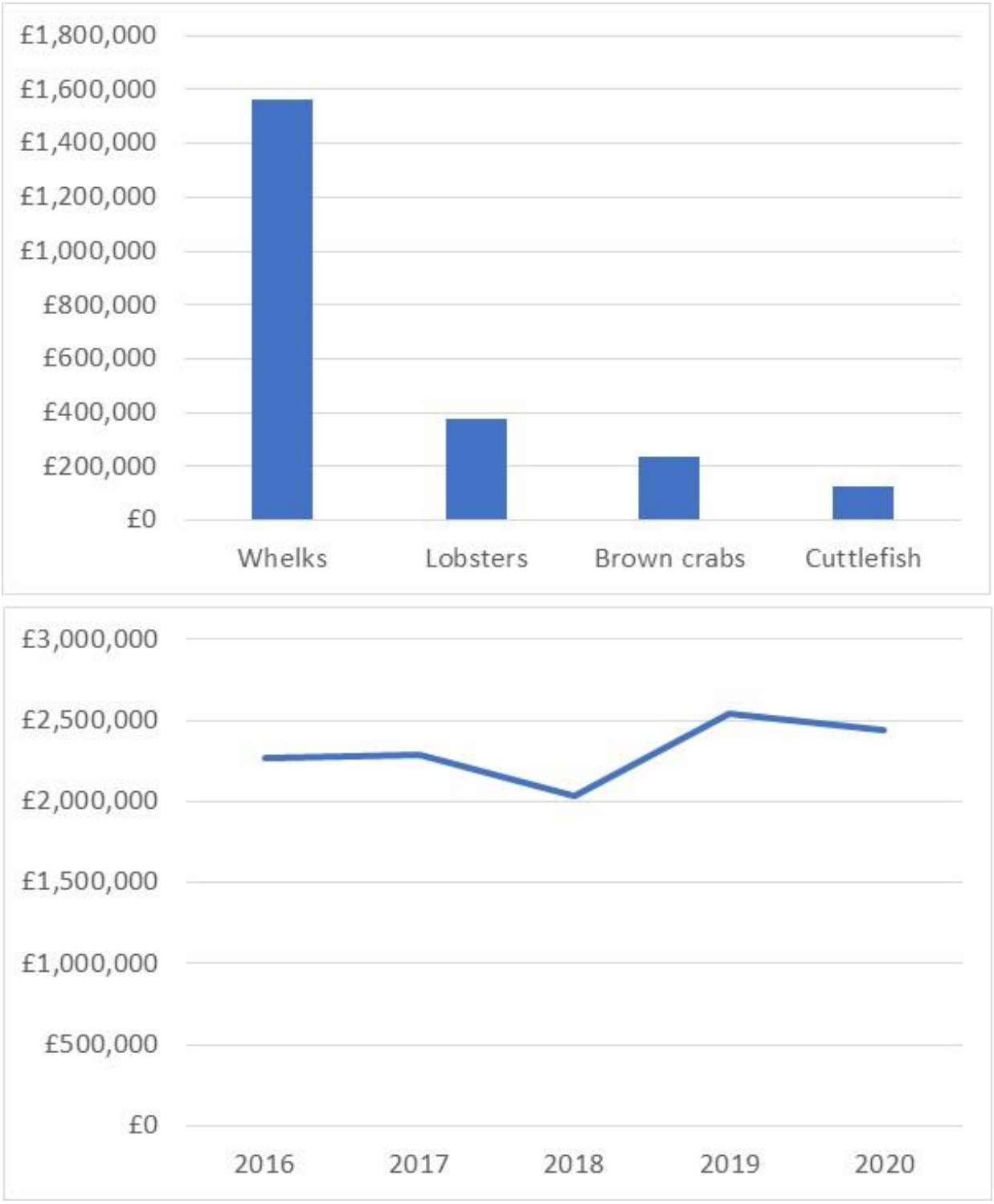
Graphic 10-3 Average annual landed weight (tonnes) of species landed by all UK and EU countries from the study area (2012 to 2016) (EU DCF, 2020)



Potting fishery

10.6.6 In the Rampion 2 commercial fisheries study area landings by vessels using pots and traps are almost exclusively undertaken by the UK fleet. An average of 1,300 tonnes of whelk are landed annually from the study area, and whelk are also the most valuable species targeted by the potting fishery, with an annual average landed value of £1.56 million. The potting fishery also targets brown crab, landing an average of 120 tonnes per year, cuttlefish landing 60 tonnes and lobsters, landing 30 tonnes. The value of landings targeted by the potting fleet have remained relatively stable across recent years. Increases in prices of both crab and lobster have made the fisheries more profitable in recent years, despite decreases in landed volumes.

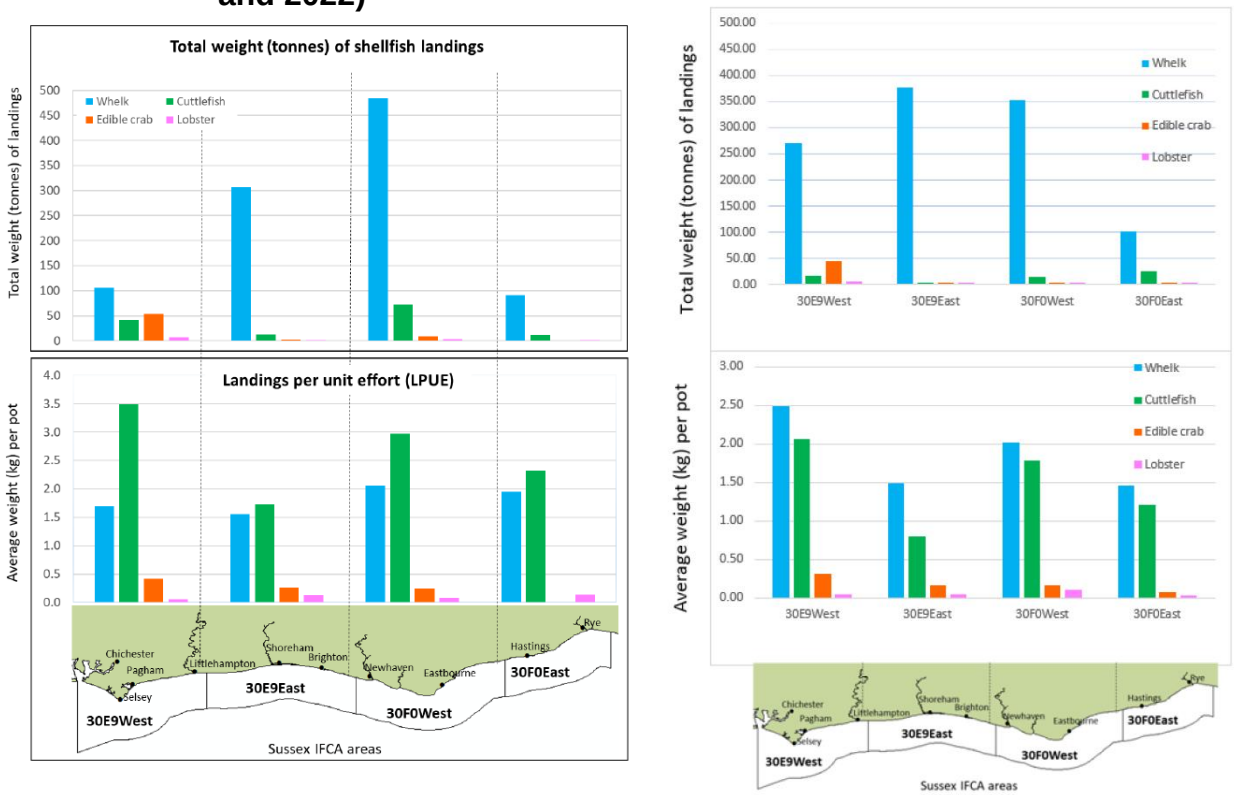
Graphic 10-4 Potting fishery landings profile from Rampion 2 commercial fisheries study area



10.6.7 **Figure 10.2, Volume 3** of the ES (Document Reference: 6.3.10) presents VMS data showing activity by vessels ≥ 15m length actively fishing using pots and traps in 2016 to 2019. The 2017 data indicate some potting activity in the array area by these larger vessels, which also target grounds to the east, south and west of Rampion 2. No potting activity by larger vessels is observed within the Rampion 2 boundary in 2016, 2018 or 2019.

10.6.8 **Figure 10.3, Volume 3** of the ES (Document Reference: 6.3.10) presents mapping of inshore fishing effort (inside of 6NM) between 2015 and 2019 by the Sussex IFCA (Nelson, 2020) based on fisheries patrol vessel sightings. Data indicate that within the nearshore area of the offshore cable corridor, vessels are potting, predominantly for whelks, but also for crab, lobster and cuttlefish (the latter caught with traps). Analysis by the Sussex IFCA of Shellfish Permit 2019 to 2021 catch return data further confirms that whelk and cuttlefish, and to a lesser extent crab and lobster, are targeted in and around the offshore cable corridor (**Graphic 10-5**). Whelk represent the dominant shellfish species landed from the offshore cable corridor.

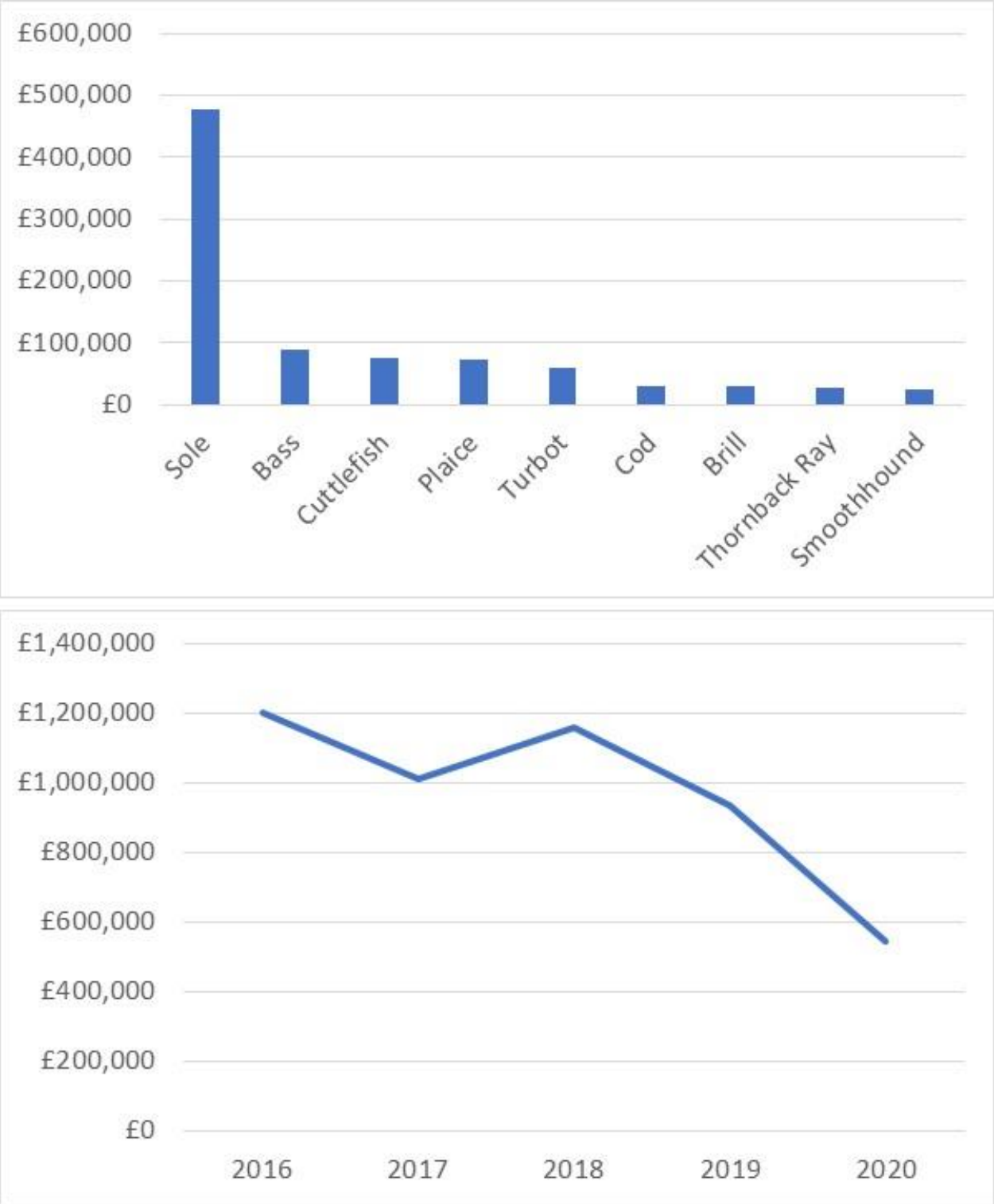
Graphic 10-5 Shellfish landings within Sussex IFCA limits in 2020 (left) and 2021 (right), based upon Shellfish Permit catch returns (the offshore cable corridor is located in area 30E9West in the figure) (Sussex IFCA, 2021 and 2022)



Netting fishery

10.6.9 In the Rampion 2 commercial fisheries study area landings by vessels using fixed and drift nets are exclusively undertaken by the UK fleet. An average of 60 tonnes of sole are landed annually from the study area, and sole is also the most valuable species targeted by the netting fishery, with an annual average landed value of £480,000. The netting fishery also targets bass, cuttlefish, plaice and turbot. The value of landings targeted by the netting fleet has declined since the most recent peak in 2018.

Graphic 10-6 Netting fishery landings profile from Rampion 2 commercial fisheries study area



10.6.10 Landings statistics confirm that the majority of netting activity is undertaken by vessels under 10m length, and therefore the fishery targets grounds predominantly in inshore waters. **Figure 10.4, Volume 3** of the ES (Document Reference: 6.3.10) presents mapping of inshore fishing effort (inside of 6NM) between 2015 and 2019 by the Sussex IFCA (Nelson, 2020) based on fisheries patrol vessel sightings. Data indicate that netting activity targeting mixed species including plaice, sole

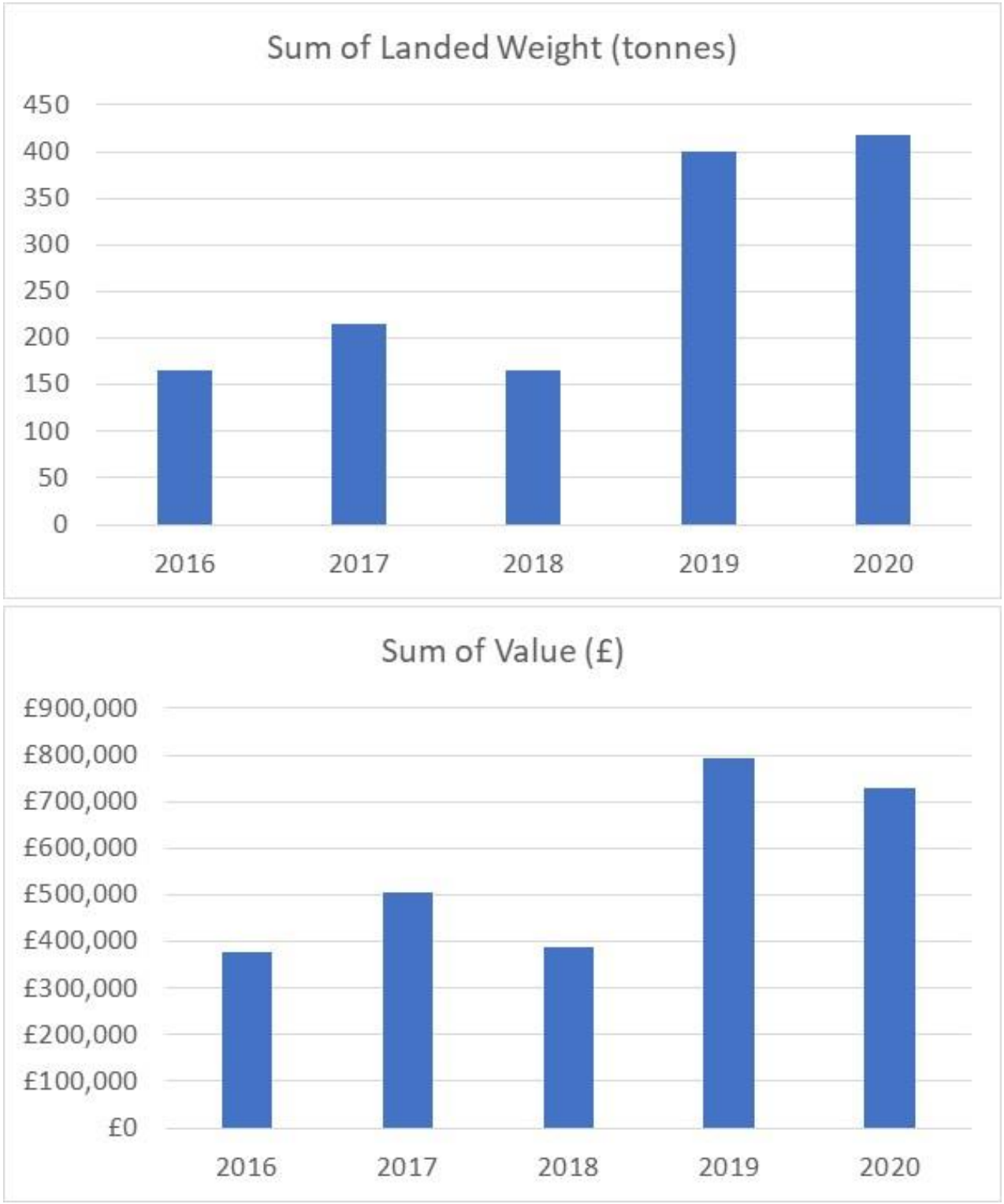
and bass is also recorded within the Rampion 2 offshore export cable corridor, though effort is greater to the east of the corridor.

Dredge fishery

10.6.11 In the Rampion 2 commercial fisheries study area landings by vessels using dredges are almost exclusively undertaken by the UK fleet, in this case comprised of English and Scottish vessels. EU DCF landings data indicates some very limited activity by Irish and French dredgers in the commercial fisheries study area. The dredge fishery targets scallops, with minimal landings of other commercial species.

10.6.12 Annual landings by the dredge scallop fishery are variable, with lower catches from the study area between 2016 and 2018, compared with 2019 and 2020. Annual landed weight of scallops from the study area peaked in 2020 at 420 tonnes, with a value of almost £730,000. This reflects the somewhat cyclable nature of scallop fisheries, where certain grounds are more productive in certain years and are therefore targeted on a cyclable basis.

Graphic 10-7 Dredge fishery landings profile from Rampion 2 commercial fisheries study area



10.6.13 Scallop dredging is an activity which is generally engaged by larger (>10m vessel length) vessels due to the engine capacity required to tow this heavy fishing gear. Due to a vessel length restriction by a Sussex IFCA byelaw, vessels >14m in length are prohibited from fishing within 6NM and a further byelaw prohibits scallop dredging by any vessel within 3NM of the shoreline.

10.6.14 **Figure 10.5, Volume 3** of the ES (Document Reference: 6.3.10) presents VMS data for UK vessels and VMS data for other EU vessels, showing activity by vessels ≥ 15m length actively fishing using dredges in 2017. **Figure 10.9, Volume 3** of the ES (Document Reference: 6.3.10) presents VMS data for UK vessels, showing activity by vessels ≥ 15m length actively fishing using dredges between 2016 and 2019. The data indicate some dredge activity in the array area, with prominent scallop grounds present to the south of Rampion 2. Very limited scallop dredge activity is expected to take place within the Rampion 2 offshore cable corridor. UK vessel dredge activity within Rampion 2 boundaries is shown by the VMS data to have been most substantial in 2017.

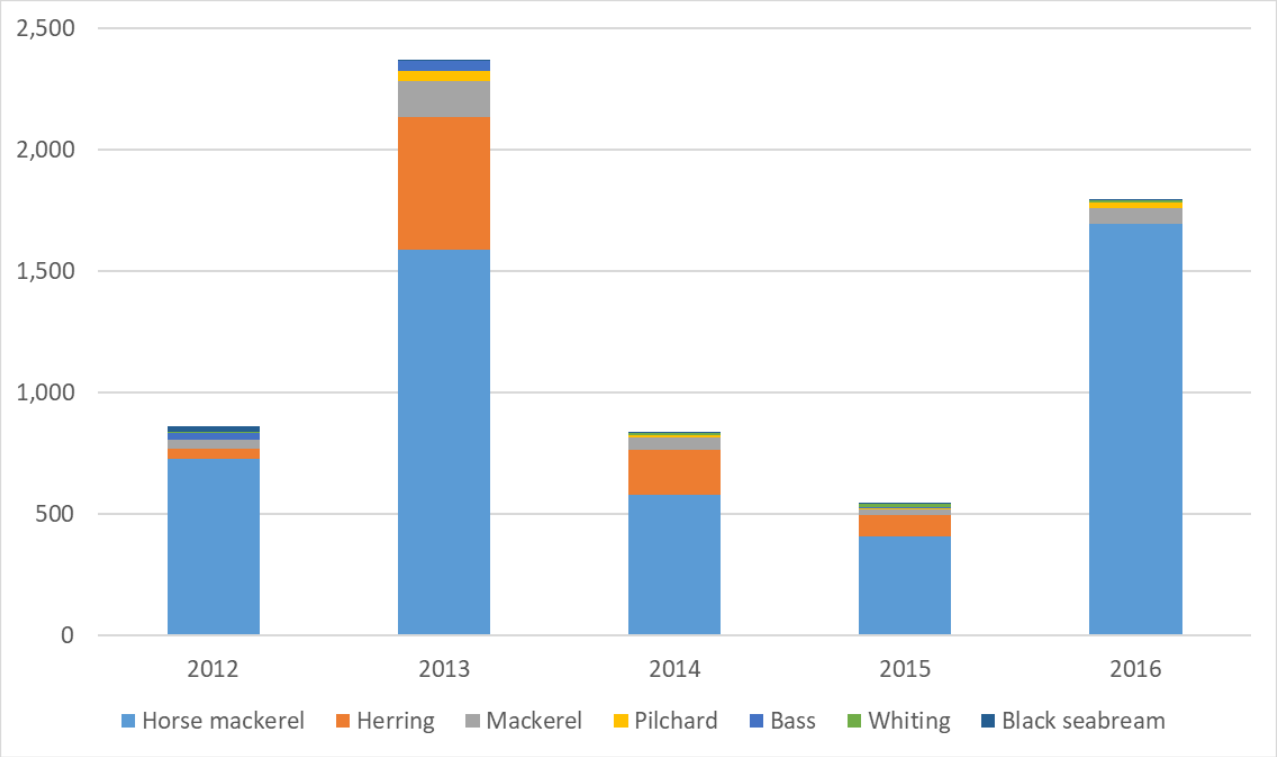
Pelagic fishery

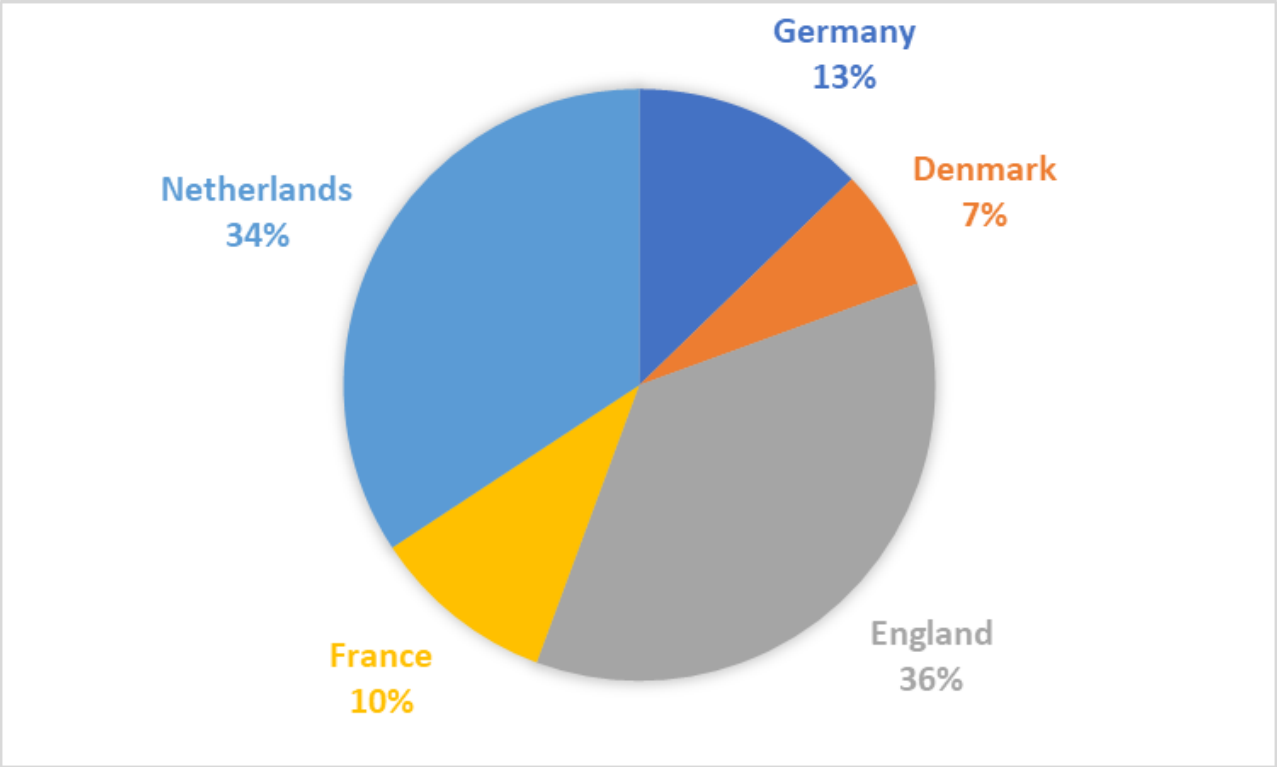
10.6.15 In the Rampion 2 commercial fisheries study area landings by vessels using pelagic trawl are taken by fleets from a number of nations, as shown in **Graphic 10-8**. In total, the pelagic trawl fishery lands an annual average catch of approximately 1,300 tonnes, the majority of which comprises horse mackerel, with additional small quantities of herring and mackerel associated with the catch. Pelagic catches are taken from the commercial fisheries study area and are highly variable year on year.

10.6.16 Vessel System Monitoring data for UK pelagic trawl activity have been analysed and show no activity within the Rampion 2 assessment boundary, with some effort noted immediately outside the 12NM boundary. The majority of effort by pelagic trawl is seen in the central portion of the eastern English Channel.

10.6.17 Pelagic trawls target highly mobile pelagic species, that move in shoals and are not associated with specific seabed habitats. Pelagic fisheries are typically characterised by short fishing events, with single trips landing up to and over 1,000 tonnes. Horse mackerel are particularly abundant to the south and west of the UK; pelagic trawl fleets are assumed to occasionally fish within the Rampion 2 array area, but not routinely target this area.

Graphic 10-8 Pelagic trawl fishery landings profile from Rampion 2 commercial fisheries study area (top: landed weight of key species; bottom: proportion of landings by vessel nationality)



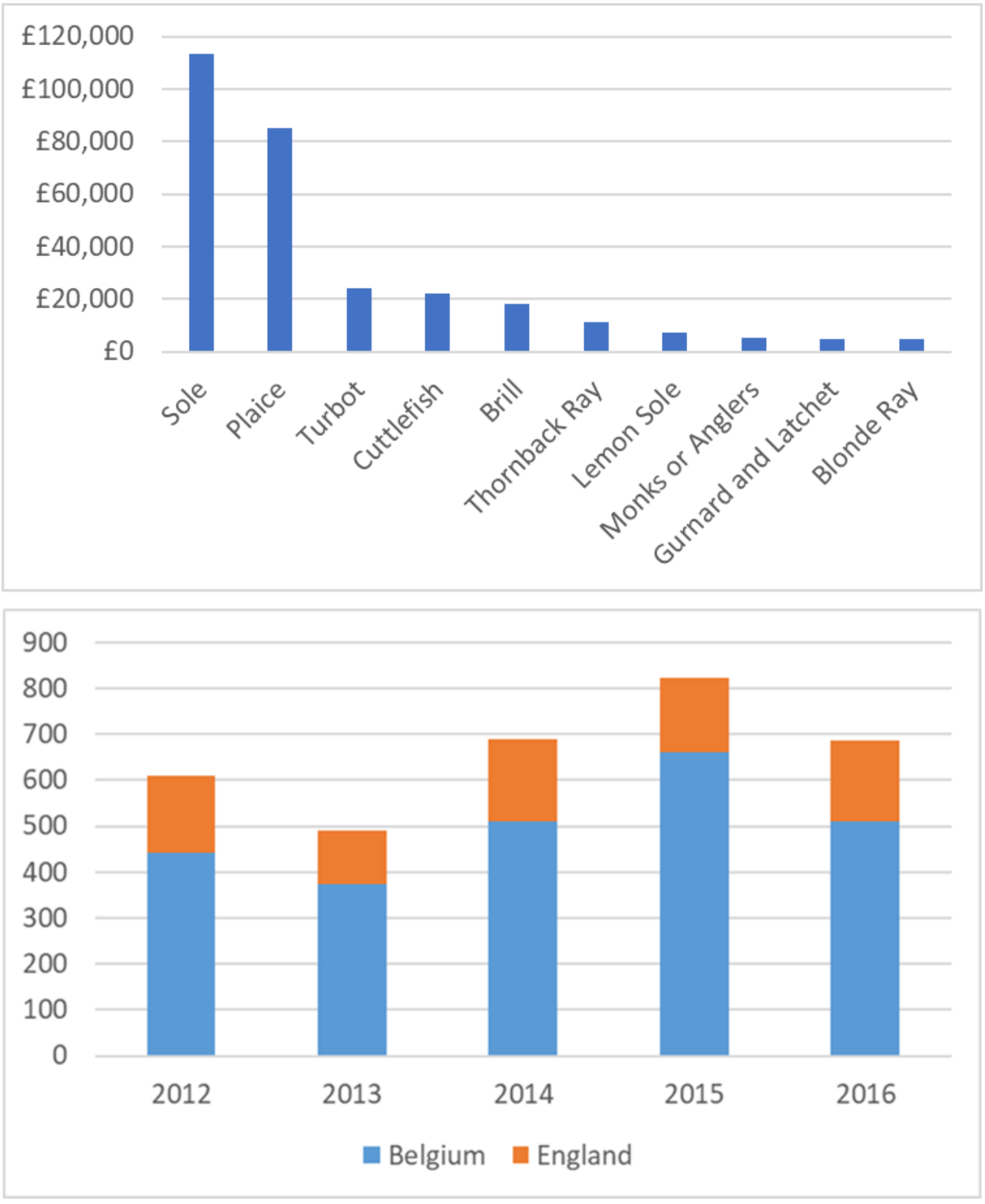


Beam trawl fishery

10.6.18 In the Rampion 2 commercial fisheries study area landings by vessels using beam trawl are taken by UK (24% by value) and Belgian (76%) fleets (**Graphic 10-9**). The target species are principally sole and plaice, though a wide variety of species are taken as part of the catch. EU DCF landings statistics indicate an average annual landing of plaice caught by beam trawl of 250 tonnes, with the equivalent value for sole being 125 tonnes.

10.6.19 Total landings by beam trawl have dropped consistently across the years analysed. This may be due to changes in gear as well as fluctuations related to trends in Total Allowable Catches (TACs) and prices for the key species.

Graphic 10-9 Beam trawl fishery landings profile from Rampion 2 commercial fisheries study area (top: average annual value of key species landed by UK fleet; bottom: proportion of landings by vessel nationality)

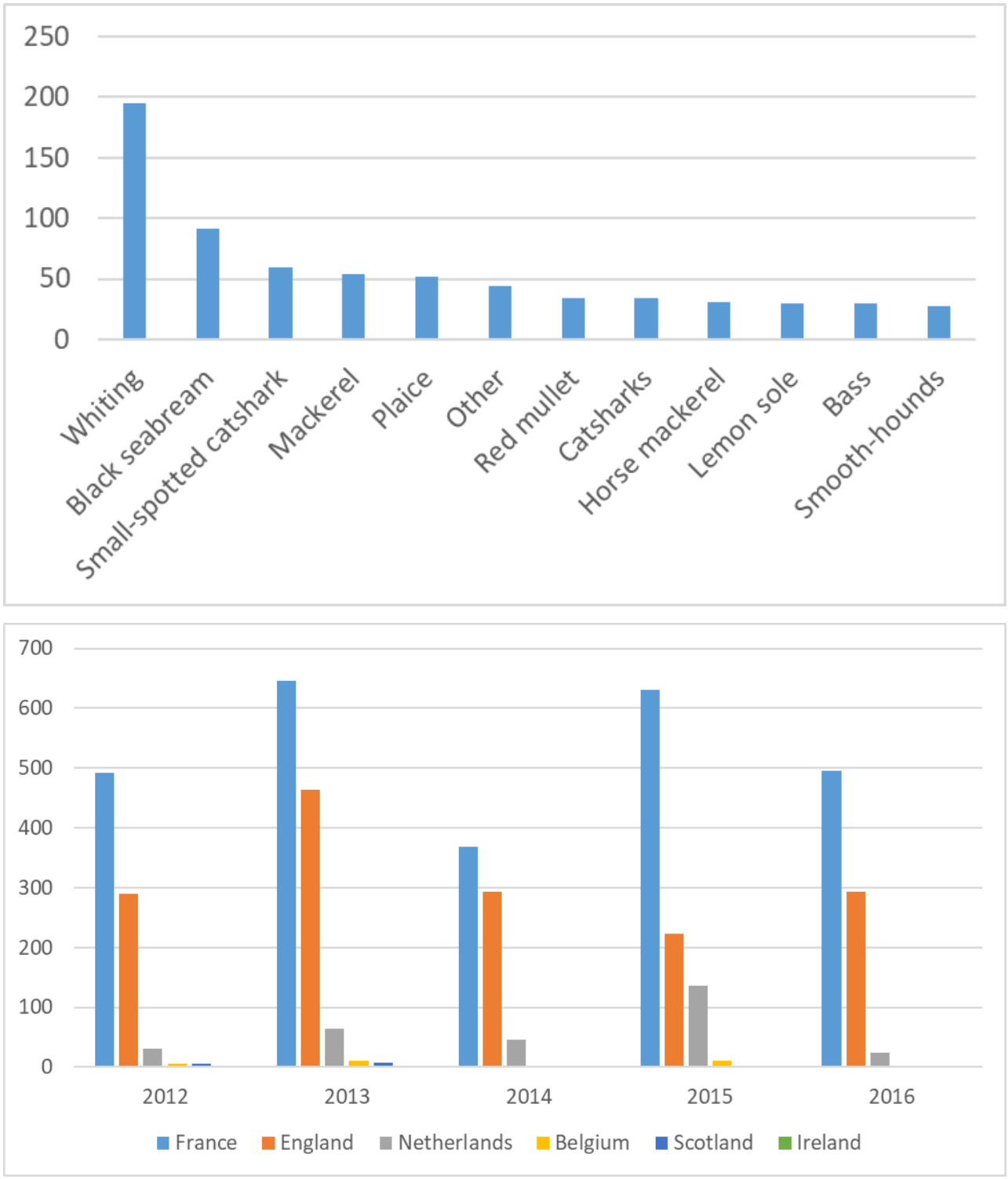


10.6.20 **Figure 10-6, Volume 3** of the ES (Document Reference: 6.3.10) presents VMS data showing activity by UK and other EU vessels ≥ 15m length actively fishing using beam trawl in 2017. **Figure 10.10, Volume 3** of the ES (Document Reference: 6.3.10) presents VMS data for UK vessels only, showing activity by vessels ≥ 15m length actively fishing using beam trawls between 2016 and 2019. The data indicate that both UK and Belgian beam trawl fisheries are active across Rampion 2, and beam trawlers are particularly active across the eastern half of the array area and in adjacent waters to the south and east.

Demersal otter trawl fishery

10.6.21 EU DCF landings data presented below indicates that in the Rampion 2 commercial fisheries study area landings of fish caught using demersal trawls are recorded primarily by English and French vessels. The demersal trawl fishery targets a wide variety of species (**Graphic 10-10**), including horse mackerel, sea breams and squid. MMO landings statistics indicate that UK demersal trawlers land approximately 670 tonnes catch from the study area on an annual basis, valued at £640,000, with horse mackerel dominating UK vessel landings.

Graphic 10-10 Demersal trawl fishery landings profile from Rampion 2 commercial fisheries study area (top: average annual weight of key species landed by all fleets; bottom: landings by vessel nationality by year)



10.6.22 **Figure 10-7, Volume 3** of the ES (Document Reference: 6.3.10) presents VMS data showing activity by UK and other EU vessels ≥ 15m length actively fishing using demersal trawl in 2017. **Figure 10.11, Volume 3** of the ES (Document Reference: 6.3.10) presents VMS data for UK vessels only, showing activity by vessels ≥ 15m length actively fishing using demersal trawls between 2016 and 2019. The data indicate that both UK and other EU demersal trawl fisheries are active across Rampion 2, with more heavily targeted grounds located to the southeast of the commercial fisheries study area.

10.6.23 **Figure 10.8, Volume 3** of the ES (Document Reference: 6.3.10) presents mapping of inshore fishing effort (inside of 6NM) between 2015 and 2019 by the Sussex IFCA (Nelson, 2020) based on fisheries patrol vessel sightings. Data indicate that trawling takes place within the offshore cable corridor, with such activity fairly widespread throughout inshore waters along the wider coastline.

Future baseline

10.6.24 The Infrastructure Planning EIA Regulations 2017 require that "*A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*" is included within the ES (Schedule 4, Paragraph 3). From the point of assessment, over the course of the development and operational lifetime of Rampion 2 (operational lifetime anticipated to be approximately 30 years from commissioning), long-term trends mean that the condition of the baseline environment is expected to evolve. Commercial fisheries patterns change and fluctuate based on a range of natural and management-controlled factors. These include the following:

- Market demand: commercial fishing fleets respond to market demand, which is impacted by a range of factors, including the COVID-19 pandemic;
- Market prices: commercial fishing fleets respond to market prices by focusing effort on higher value target species when prices are high and markets in demand;
- Stock abundance: fluctuation in the biomass of individual species stocks in response to status of the stock, recruitment, natural disturbances (e.g. due to storms, sea temperature etc.), changes in fishing pressure etc.;
- Fisheries management: including new management for specific species where overexploitation has been identified, or changes in Total Allowable Catches leading to the relocation of effort, and/or an overall increase/decrease of effort and catches from specific areas;
- Environmental management: including the potential restriction of certain fisheries within protected areas;
- Improved efficiency and gear technology: with fishing fleets constantly evolving to reduce operational costs e.g. by moving from beam trawl to demersal seine; and

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

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

10.6.26 Following the withdrawal of the UK from the EU, the UK and the EU have agreed to a Trade and Cooperation Agreement (TCA), applicable on a provisional basis from 1 January 2021. The TCA sets out fisheries rights and confirms that from 1 January 2021 and during a transition period until 30 June 2026, UK and EU vessels will continue to access respective Exclusive Economic Zones (EEZs, 12-200 NM) to fish. In this period, EU vessels will also be able to fish in specified parts of UK waters between 6-12 NM.

10.6.27 25% of the EU's fisheries quota in UK waters will be transferred to the UK over the five-year transition period; a significant proportion of this has already been transferred. Overall, the biggest gains are for Western and North Sea stocks and associated fisheries, including mackerel, sole and herring. There have been increases in the UK share of TACs for the following species relevant to the study area:

- Anglerfish, megrim, pollack (in the wider ICES area 7);
- Horse mackerel, herring and skates & rays (in the Eastern English Channel); and
- Sole, plaice, sprat and undulate ray (in the English Channel).

10.6.28 There has been limited change in the overall UK share for plaice and sole, the key fisheries targeted by non-UK vessels, notably Belgian beam trawlers. The UK share of sole in the Eastern English Channel will be increased by 1% (in terms of absolute percentage increase phased over five years), and plaice in the English Channel by 1%. It could therefore be expected that between 2021 and 2025, UK vessels could be catching some more plaice and sole from the English Channel and therefore across the study area, compared to the current baseline; and consequently, that Belgian fleets could be catching marginally less. In summary, levels of fishing activity within the study area are likely to remain consistent with the current baseline, but be undertaken in a slightly greater proportion by UK vessels.

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

10.7 Basis for ES assessment

Maximum design scenario

10.7.1 Assessing using a parameter-based design envelope approach means that the assessment considers a maximum design scenario whilst allowing the flexibility to make improvements in the future in ways that cannot be predicted at the time of submission of the DCO Application. The assessment of the maximum adverse scenario for each receptor establishes the maximum potential adverse impact and as a result impacts of greater adverse significance would not arise should any other development scenario (as described in **Chapter 4: The Proposed Development, Volume 2** of the ES (Document Reference: 6.2.4)) to that assessed within this Chapter be taken forward in the final scheme design.

10.7.2 The maximum parameters and assessment assumptions that have been identified to be relevant to commercial fisheries are outlined in **Table 10-11** and are in line with the Project Design Envelope (**Chapter 4: The Proposed Development, Volume 2** of the ES (Document Reference: 6.2.4)).

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Table 10-11 Maximum parameters and assessment assumptions for impacts on commercial fisheries

Project phase and activity/impact	Maximum assessment assumptions	Justification
Construction		
Reduction in access to, or exclusion from established fishing grounds	Total temporary reduction *Boulder clearance array area:* Total clearance area - Pre-lay Plough/ Pre-lay grapnel for cables = 8,800,000m^2 Total clearance area - Subsea grab for cables = 5,280,000m^2 Total clearance area - Foundations and Jack-up legs = 1,313,000m^2 *Boulder clearance export cable corridor:* Total clearance area - Pre-lay Plough/ Pre-lay grapnel for cables = 1,700,000m^2 Total clearance area - Subsea grab for cables = 1,020,000m^2 *Sandwave clearance array area:* Sandwave clearance for foundations = 475,000 m^3 Sandwave clearance for cables = 900,000 m^3 *Construction vessel anchoring:* Vessel anchorage footprint = 334,000m^2 *Safety Zones:*	This represents the maximum duration and extent of fishing exclusion throughout the construction phase and hence the greatest potential to restrict access to fishing grounds. The construction footprint comprises the full permanent seabed area of structures, scour protection, cable crossings and cable protection plus the temporary footprint of preparatory works including seabed preparation, sandwave clearance and boulder clearance. The impact area also incorporates Safety Zones around major activities. It is important to note that the temporal aspect of temporary works will not apply in full throughout the 4-year offshore construction phase, as activities will be completed sequentially.

Project phase and activity/impact	Maximum assessment assumptions	Justification
	500m Safety Zones around construction activities = 0.79km^2 per structure under construction at any one time 50m Safety Zones around incomplete structures = 7,854m^2 per partially constructed structure at any one time Roaming 500m safe passing distance for mobile installation vessels, which may, in exceptional circumstances, be increased to 1,000m dependant on the nature of the installation works *Offshore cables:* Burial of 250km of inter-array cables = 6,250,000m^2 total disturbance Burial of 40km of interconnector export cables = 1,00,000m^2 Burial of 170km of export cables = 4,250,000m^2 total disturbance *Construction Duration:* Offshore construction over a 4-year period. <u>Total permanent reduction</u> *Wind Turbine Generators (WTGs) and Offshore Substations (OSS):* WTG footprint (multileg with suction buckets) with scour protection (4,500m^2), based on up to 90 x smaller WTG type = 405,000m^2	

Project phase and activity/impact	Maximum assessment assumptions	Justification
	Offshore substation footprint (jacket with pin piles foundation) with scour protection (7,500m^2, per monopile) based on up to three OSS = 26,400m^2 *Offshore Cables:* Maximum rock protection area for array cable crossings = 40,000m^2 Maximum rock protection area for array cables (based on 20% of cable requiring protection) = 300,000m^2 Maximum rock protection area for interconnector cables (based on 20% of cable requiring protection) = 122,000m^2 Maximum rock protection area for export cables (based on 20% of cable requiring protection) = 517,000m^2	
Displacement leading to gear conflict and increased fishing pressure on adjacent grounds	As for 'Reduction in access to, or exclusion from established fishing grounds' (see above).	This represents the maximum duration and extent of fishing exclusion throughout the construction phase and hence the greatest potential for displacement.
Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity	See fish and shellfish ecology maximum design scenario presented in **Chapter 8: Fish and Shellfish Ecology**.	The scenarios presented in fish and shellfish ecology provide for the greatest disturbance to fish and shellfish species and therefore the greatest knock-on effect to commercial fisheries. Importantly, this considers the impacts as a whole on commercially important species as considered in the maximum design

Project phase and activity/impact	Maximum assessment assumptions	Justification
		scenario for the fish and shellfish chapter, rather than any one impact in particular.
Increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity	<u>WTG foundation installation (based on the smaller WTG type):</u> A maximum of 25 vessels making up to 680 return trips. 24 months duration <u>WTG installation (based on the smaller WTG type):</u> A maximum of 22 vessels making up to 1,033 return trips. 12 months duration <u>Substation installation:</u> A maximum of 37 vessels making up to 288 return trips. 8 months duration <u>Inter-array and interconnector cable installation:</u> A maximum of 21 vessels making up to 318 return trips. 16 months duration <u>Offshore export cable installation:</u> A maximum of 24 vessels making up to 154 return trips 6 months duration	The maximum number of WTGs and associated infrastructure will lead to the highest level of construction activities and therefore highest level of construction vessel round trips. The maximum number of vessels transits and the maximum duration of the construction will result in the greatest potential for interference.
Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Rampion 2 area	As for ‘Reduction in access to, or exclusion from established fishing grounds’ (see above).	This represents the maximum duration and extent of fishing exclusion throughout the construction phase and hence the greatest

Project phase and activity/impact	Maximum assessment assumptions	Justification
		potential for additional steaming to alternative grounds.
Operation and Maintenance		
Reduction in access to, or exclusion from established fishing grounds	<u>Total permanent reduction:</u> *Wind Turbine Generators (WTGs) and Offshore Substations (OSS):* WTG footprint (multileg with suction buckets) with scour protection (4,500m^2), based on up to 90 x smaller WTG type = 405,000m^2 Minimum WTG spacing[1] of 830m (based on installation of the smaller WTG type). Offshore substation footprint (jacket with pin piles foundation) with scour protection (7,300m^2, per monopile) based on up to three OSS = 21,900m^2 *Offshore Cables:* Maximum rock protection area for array cable crossings = 40,000m^2	This represents the maximum duration and extent of fishing exclusion throughout the operation and maintenance phase and hence the greatest potential to restrict access to fishing grounds. It comprises the maximum footprint of infrastructure on the seabed plus maintenance activities throughout the operational and maintenance phase and associated temporary safety zones. The smaller the spacing between WTGs the greater the potential for vessels to have restricted access to the site. The assessment assumes that fishing will resume around and between infrastructure within Rampion 2 where possible, with the exception of an assumed 50m operating distance from infrastructure, areas of cable protection, and safety zones around infrastructure undergoing major maintenance or

[1] The minimum turbine spacing for the smaller WTG scenario is set at 950m, however for the purposes of the commercial fishing assessment, and as specified within the DCO, a minimum of 830m has been used to provide for the possibility of smaller, more closely spaced WTGs being employed; note, other relevant assessment parameters of such a scenario would not exceed those presented here, importantly including the maximum of 90 WTGs.

Project phase and activity/impact	Maximum assessment assumptions	Justification
	Maximum rock protection area for array cables (based on 20% of cable requiring protection) = 300,000m^2 Maximum rock protection area for interconnector cables (based on 20% of cable requiring protection) = 122,000m^2 Maximum rock protection area for export cables (based on 20% of cable requiring protection) = 517,000m^2 <u>Temporary reduction from maintenance activities:</u> *WTG maintenance:* 225 painting and 15,000 cleaning events. *WTG component replacement:* 1,100m^2 jack-up footprint per exchange event 315 major component exchange events over lifetime 450 anode replacement events over lifetime 180 J-tube replacement events over lifetime 600 access ladder replacement events over lifetime *Cable remedial burial:* 18 array cable remedial burial events over lifetime	replacement. Furthermore, the individual decisions made by skippers with their own perception of risk will determine the likelihood of whether their fishing will resume within Rampion 2. Inclement weather will be a significant contributor to this risk perception. In addition, certain gear types including trawls will not be practically deployed within the operational array.

Project phase and activity/impact	Maximum assessment assumptions	Justification
	3 export cable remedial burial events per cable over lifetime 200,000m^2 seabed disturbance per cable remedial burial event *Cable repairs:* 6 array cable repair events and 14 remedial burial events over lifetime 4 export cable repair events and 3 remedial burial events over lifetime 1,100m^2 jack-up footprint per event *Offshore substation maintenance:* 6 painting, 21 touch-up painting and 300 cleaning events *Offshore substation component replacement:* 27 major component exchange events over lifetime 1,100m^2 jack-up footprint per exchange event. *Safety Zones:* 500m safety zones around manned offshore platforms and temporary 500m safety zones around WTGs and offshore platforms undergoing major maintenance. *Other:* 38 seabed surveys over lifetime Duration: Operational design life of approximately 30 years.	

Project phase and activity/impact	Maximum assessment assumptions	Justification
Displacement leading to gear conflict and increased fishing pressure on adjacent grounds	As per the justification for 'Reduction in access to, or exclusion from established fishing grounds' (see above)	As per the justification for 'Reduction in access to, or exclusion from established fishing grounds' (see above)
Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity	See fish and shellfish ecology maximum design scenario presented in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8).	The scenarios presented in fish and shellfish ecology provide for the greatest disturbance to fish and shellfish species and therefore the greatest knock-on effect to commercial fisheries. Importantly, this considers the impacts as a whole on commercially important species as considered in the maximum design scenario for fish and shellfish chapter, rather than any one impact in particular.
Increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity	*Vessel Trips:* 6 crew transfer vessels 2 Service Operation Vessels 4 jack-up vessels with up to 19 trips per year *Duration:* Operational design life of 30 years.	The maximum number of WTGs and associated infrastructure will lead to the highest level of operation and maintenance activities and therefore highest level of operation and maintenance vessel round trips.
Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Rampion 2 area	As for 'Reduction in access to, or exclusion from established fishing grounds' (see above).	This represents the maximum duration and extent of fishing exclusion throughout the operation and maintenance phase and hence the greatest potential for additional steaming to alternative grounds.

Project phase and activity/impact	Maximum assessment assumptions	Justification
Physical presence of infrastructure leading to gear snagging	As per the justification for 'Reduction in access to, or exclusion from established fishing grounds' (see above)	This represents the maximum potential for interactions between infrastructure and fishing gear.
Decommissioning		
Reduction in access to, or exclusion from established fishing grounds	In the absence of detailed methodologies and schedules, decommissioning works and associated implications for commercial fisheries are considered analogous with those assessed for the construction phase.	The scenario which represents the potential for the maximum level of infrastructure to be decommissioned. Decommissioning is likely to include removal of all of the WTG components and part of the foundations (those above seabed level) and removal of all other surface infrastructure. Some or all of the array cables, interconnector cables, and offshore export cables may be removed. Scour and cable protection may~~will likely~~ be left in situ; the Applicant is committed to exploring secondary protection options that have the greatest potential for removal on decommissioning.~~.~~
Displacement leading to gear conflict and increased fishing pressure on adjacent grounds	As per the justification for 'Reduction in access to, or exclusion from established fishing grounds' (see above)	The scenario which represents the potential for the maximum level of infrastructure to be decommissioned.

Project phase and activity/impact	Maximum assessment assumptions	Justification
Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity	As per the justification for 'Reduction in access to, or exclusion from established fishing grounds' (see above)	The scenario which represents the potential for the maximum level of infrastructure to be decommissioned.
Increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity	As per the justification for 'Reduction in access to, or exclusion from established fishing grounds' (see above)	The scenario which represents the potential for the maximum level of infrastructure to be decommissioned.
Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Rampion 2 area	As per the justification for 'Reduction in access to, or exclusion from established fishing grounds' (see above)	The scenario which represents the potential for the maximum level of infrastructure to be decommissioned.

Embedded environmental measures

10.7.3 As part of the Rampion 2 design process, a number of embedded environmental measures have been adopted to reduce the potential for impacts on commercial fisheries. These embedded environmental measures have evolved over the development process as the EIA has progressed and in response to consultation.

10.7.4 These measures also include those that have been identified as good or standard practice and include actions that would be undertaken to meet existing legislation requirements. As there is a commitment to implementing these embedded environmental measures, and also to various standard sectoral practices and procedures, they are considered inherently part of the design of Rampion 2 and are set out in this ES.

10.7.5 The Applicant has reduced the project design significantly in order to reduce potential impacts as far as practicable. The maximum number of turbines has reduced from 116 to 90, a reduction of 22% when compared to PEIR (RED, 2021) stage. As part of the offshore boundary refinement, structure exclusion zones for surface infrastructure have also been established to the west and south of Rampion 1.

10.7.6 **Table 10-12** sets out the relevant embedded environmental measures within the design and how these affect the commercial fisheries assessment.

Table 10-12 Relevant commercial fisheries embedded environmental measures

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
C-45	Where possible, subsea cable burial will be the preferred option for cable protection. Cable burial will be informed by the cable burial risk assessment and detailed within the Cable Specification and Installation Plan.	Scoping	DCO requirements or Deemed marine Licence (DML) conditions	This measure will minimise seabed surface infrastructure and therefore the potential for any associated impacts on fishing practice (e.g. towed gear, reduction of under keel clearance, anchor interaction) in addition to ensuring significant effects on fish species targeted by fleets

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
				are avoided (e.g. EMF, change in seabed habitats).
C-46	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins. The undertaker must ensure that a local Notice to Mariners (NtM) is issued at least 14 days prior to the commencement of the authorised Proposed Development or any part thereof advising of the start date of each activity and the expected vessel routes from the construction ports to the relevant location.	Scoping updated for ES	DCO requirements or DML conditions	Reduces potential for impacts on c~~C~~ommercial fisheries by providing advance notification of Rampion 2 operations during the phases of the project and avoiding significant effects associated with, for example, fishing activity displacement and collision risk (vessels and structures)
C-47	Ongoing liaison with fishing fleets will be maintained during pre-construction, construction, maintenance and decommissioning operations via an appointed Fisheries Liaison Officer and Fishing Industry Representative to ensure that the fishing community are fully informed of any offshore activities and works. Also see C-91, C-92 and C-93.	Scoping, updated at PEIR and for ES	DCO requirements or DML conditions	Provides for effective communication between the project and commercial fishing interests to ensure potential impacts are minimised and co-existence can be achieved throughout all phases of the Proposed Development.
C-56	RED will apply for safety zones post consent. Safety	Scoping	Electricity application	Minimises the potential for

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
	zones of up to 500m will be sought during construction, maintenance and decommissioning phases. Where appropriate, guard vessels will also be used to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact which poses a risk to surface navigation during construction, maintenance and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.		procedures (Section 95 of Energy Act 2004)	impacts on commercial fisheries in relation to fishing activities and provides for effective management of potential vessel to vessel collision risk and vessel to structure allision risk that might arise in the absence of such measures.
C-62	The Proposed Development will comply with legal requirements with regards to shipping, navigation and aviation marking and lighting.	Scoping - updated at PEIR	DCO requirements or DML conditions	Appropriate marking and lighting of structures to ensure safety at sea for fishing vessels in relation to the creation of vessel to structure allision risk associated with the presence of the Proposed Development.
C-90	RED is committed to ongoing liaison with fishermen throughout all stages of the Proposed Development, based upon FLOWW (2014, 2015) guidance.	Scoping	DCO requirements or DML conditions	Provides for effective communication between the project and commercial fishing interests

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
C-91	Appointment of a company FLO will be undertaken to maintain effective communications between the project and fishermen, in line with C-47, C-92 and C-93.	Scoping, updated at PEIR	DCO requirements or DML conditions	to ensure potential impacts are minimised and co-existence can be achieved throughout all phases of the Proposed Development. .
C-92	Appropriate liaison will be undertaken with relevant fishing interests to ensure that they are fully informed of development planning and any offshore activities and works, in line with C-47, C-92 and C-93.	Scoping, updated at PEIR	DCO requirements or DML conditions	
C-93	Timely issue of notifications including NtMs, Kingfisher Bulletin notifications and other navigational warnings to the fishing community will be undertaken to provide advance warning of Proposed Development activities and associated Safety Zones and advisory safety distances, in line with C-47, C-91 and C-92.	Scoping, updated at PEIR	DCO requirements or DML conditions	
C-194	RED will develop a Fisheries Liaison and Co-existence Plan (FLCP). The FLCP will capture all commitments made by RED relevant to commercial fisheries. The FLCP will be finalised prior to the commencement of project construction. The Outline Fisheries Liaison and Co-existence Plan (Document Application Reference 7.20) has been submitted with this Application.	PEIR, updated for ES	Deemed marine licence	

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
C-276	Any objects dropped on the seabed during works associated with the Project will be reported and objects will be recovered where they pose a hazard to other marine users and where recovery is possible.	ES	Deemed marine licence	Minimises the potential for impacts on commercial fisheries in relation to fishing activities and provides for effective management of potential dropped objects.
C-288	The Applicant is committed to minimising the release of plastics into the marine environment, and commits to using suitable alternatives, where this is practicable.	Examination	Deemed marine licence	Minimises the potential for impacts on commercial fisheries in relation to fishing activities and potential effects on target fish and shellfish stocks.
C-289	The Applicant will use secondary protection material, where practicable, that has the greatest potential for removal on decommissioning of the Proposed Development.	Examination	DCO requirements & DML conditions	Minimises the potential for impacts on commercial fisheries in relation to fishing activities continuing post-decommissioning.
C-298	Where appropriate, the results of post-consent monitoring, data and reports will be made publicly available and provided to the relevant data repositories.	Examination	Deemed marine licence	Not directly relevant to commercial fisheries assessment, though noted that reporting will be accessible to fisheries stakeholders.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
C-300	Cable protection will be used that minimises the environmental impacts as far as practicable. At the point of selecting a cable protection supplier, consideration will be given to using the method of cable protection which is likely to be removable at decommissioning.	Examination	Deemed marine licence	Minimises the potential for impacts on commercial fisheries in relation to fishing activities continuing post-decommissioning.
C-304	The Windfarm Exclusion Zone to the west of Rampion 1, as set out in the Figure 17.1 of the Navigational Risk Assessment and as secured by the Offshore Works Plans, will be open to navigation for all vessels and compliant with Marine Guidance Note (MGN) 654.	Examination	Deemed marine licence	Minimises the potential for impacts on commercial fisheries in ensuring ongoing fishing vessel transit through the Windfarm Exclusion Zone.

10.7.7 Further detail on the environmental measures in **Table 10-12** is provided in the **Commitments Register** (Document Reference: 7.22) which sets out how and where particular environmental measures will be implemented and secured.

10.8 Methodology for ES assessment

Introduction

10.8.1 The project-wide generic approach to assessment is set out in **Chapter 5: Approach to the EIA, Volume 2** of the ES (Document Refence 6.2.5). The assessment methodology for commercial fisheries for the ES is consistent with that provided in the Scoping Report (RED, 2020) and no changes have been made since the scoping phase and PEIR (RED, 2021).

Impact assessment criteria

10.8.2 The criteria for determining the significance of effects is a two-stage process that involves defining the sensitivity of the receptors and the magnitude of the impacts. This section describes the criteria applied in this chapter to assign values to the

sensitivity of receptors and the magnitude of potential impacts. The criteria for defining sensitivity in this chapter are outlined in **Table 10-13** below.

Table 10-13 Definition of terms relating to receptor sensitivity

Sensitivity	Definition used in this chapter
High	Receptor is generally vulnerable to impacts that may arise from the project and recoverability is slow and/or costly and/or low levels of alternative fishing grounds are available and/or fishing fleet has low operational range.
Medium	Receptor is somewhat vulnerable to impacts that may arise from the project and has moderate levels of recoverability and/or moderate levels of alternative fishing grounds are available and/or fishing fleet has moderate operational range.
Low	Receptor is not generally vulnerable to impacts that may arise from the project and/or has high recoverability and/or high levels of alternative fishing grounds are available and/or fishing fleet has large to extensive operational range; fishing fleet is adaptive and resilient to change.
Negligible	Receptor is unlikely to be vulnerable to impacts that may arise from the project and/or has very high recoverability and/or very high levels of alternative fishing grounds are available and/or fishing fleet has extensive operational range; fishing fleet is highly adaptive and resilient to change.

10.8.3 The criteria for defining impact magnitude in this chapter are outlined in **Table 10-14** below. In assessing the magnitude of the impact, the value and vulnerability of the receptor, i.e. the fishing fleet under assessment, together with the reversibility of the impact, are considered. Due to the range in scale, value (in terms of both landings and income / profit) and operational practises, within the commercial fishing fleets assessed, specific economic criteria were not set for defining value within the categories of high, medium or low. Instead, these classifications were based on judgement informed by the baseline characterisation and consultation with the industry.

Table 10-14 Definition of terms relating to magnitude of an impact

Magnitude of impact	Definition used in this chapter
Major (Adverse)	• impact is of long-term duration (e.g. greater than 12 years duration) and/or is of extended physical extent; and • impact is expected to result in one or more of the following:

Magnitude of impact	Definition used in this chapter
	▸ substantial loss of target fish or shellfish biological resource (e.g. loss of substantial proportion of resource within Proposed Development area); and ▸ substantial loss of ability to carry on fishing activities (e.g. substantial proportion of effort within Proposed Development area).
Major (Beneficial)	Impact is expected to result in one or more of the following: • large scale or major improvement of resource quality, measurable against biomass reference points; and • extensive restoration or enhancement of habitats supporting commercial fisheries resources.
Moderate (Adverse)	• impact is of medium-term duration (e.g. less than 12 years) and/or is of moderate physical extent; and • impact is expected to result in one or more of the following: ▸ partial loss of target fish or shellfish biological resource (e.g. moderate loss of resource within Proposed Development area); and ▸ partial loss of ability to carry on fishing activities (e.g. moderate reduction of fishing effort within Proposed Development area).
Moderate (Beneficial)	Impact is expected to result in one or more of the following: • moderate improvement of resource quality; and • moderate restoration or enhancement of habitats supporting commercial fisheries resources.
Minor (Adverse)	• impact is of short-term duration (e.g. less than five years) and/or is of limited physical extent; and • impact is expected to result in one or more of the following: ▸ minor loss of target fish or shellfish biological resource (e.g. minor loss of resource within Proposed Development area); and ▸ minor loss of ability to carry on fishing activities (e.g. minor reduction of fishing effort within Proposed Development area).
Minor (Beneficial)	Impact is expected to result in one or more of the following: • minor benefit to or minor improvement of resource quality; and

Magnitude of impact	Definition used in this chapter
	• minor restoration or enhancement of habitats supporting commercial fisheries resources.
Negligible (Adverse)	• impact is of very short-term duration (e.g. less than two years) and/or physical extent of impact is negligible; and • impact is expected to result in one or more of the following: ▸ slight loss of target fish or shellfish biological resource (e.g. slight loss of resource within Proposed Development area); and ▸ slight loss of ability to carry on fishing activities (e.g. slight loss of fishing effort within Proposed Development area).
Negligible (Beneficial)	Impact is expected to result in one or more of the following: • very minor benefit to or very minor improvement of resource quality; and • very minor restoration or enhancement of habitats supporting commercial fisheries resources.

10.8.4 The significance of the effect upon commercial fisheries is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The method employed for this assessment is presented in **Table 10-15**. Where a range of significance of effect is presented in **Table 10-15**, the final assessment for each effect is based upon expert judgement.

10.8.5 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 EIA Regulations, in line with the approach presented in **Chapter 5: Approach to the EIA, Volume 2** of the ES (Document Reference: 6.2.5).

Table 10-15 Matrix used for the assessment of the significance of the effect

Sensitivity/importance/value	Magnitude of Change: Major	Moderate	Minor	Negligible
High	Major (Significant)	Major (Significant)	Moderate (Potentially significant)	Minor (Not significant)
Medium	Major (Significant)	Moderate (Potentially significant)	Minor (Not significant)	Minor (Not significant)
Low	Moderate (Potentially significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)
Negligible	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)

10.9 Assessment of effects: Construction phase

10.9.1 The following impacts of the offshore construction of Rampion 2 have been assessed on commercial fisheries:

- Rampion 2 array area construction activities and physical presence of constructed wind farm infrastructure leading to reduction in access to, or exclusion from established fishing grounds;
- Rampion 2 offshore export cable construction activities and physical presence of constructed wind farm infrastructure leading to reduction in access to, or exclusion from established fishing grounds;
- displacement from Rampion 2 array area leading to gear conflict and increased fishing pressure on adjacent grounds;
- displacement from Rampion 2 offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds;
- Rampion 2 array area and offshore cable corridor construction activities leading to disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity;
- increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity; and
- additional steaming to alternative fishing grounds for vessels that would otherwise be fishing within the Rampion 2 area.

10.9.2 A description of the potential effects on commercial fisheries receptors caused by each identified impact is given below.

Rampion 2 array area construction activities and physical presence of constructed wind farm infrastructure leading to reduction in access to, or exclusion from established fishing grounds

Overview

10.9.3 During construction of Rampion 2, commercial fisheries will be prevented from fishing where construction activities are taking place. In addition, Safety Zones of 500m diameter will be sought around significant infrastructure under construction. The total offshore construction duration will be approximately four years, with a number / range of construction activities being undertaken simultaneously across the site. The area in which construction will take place has been considerably reduced in response to stakeholder feedback received during the scoping and PEIR (RED, 2021) phases. Although this reduces the potential for interaction with commercial fisheries, RED has maintained the same assumption of magnitude in order to provide a precautionary assessment.

Magnitude of impact

10.9.4 This impact will lead to a localised loss of access to fishing grounds and the fish and shellfish resources within these grounds for a range of fishing opportunities during the period of construction, which will directly affect fleets over a short-term duration (i.e., less than five years, as per definition in **Table 10-14**). The impact is predicted to be intermittent with localised exclusion surrounding construction activities.

10.9.5 The impact is of relevance to international fishing fleets and is described in paragraph 10.9.6 to 10.9.12 on a fishery-by-fishery basis.

10.9.6 **Potting fishery**: the UK potting fleet targets whelk, cuttlefish, lobster and crab across a wide area, from inshore grounds, extending out into to the array area. An average annual first sales value of £2.3 million landings is taken specifically within the study area by UK potting vessels. Noting that Rampion 2 overlaps with approximately 13% of this study area, this equates to a pro-rata value of £299,000 (based on uniform landings across the entire study area). While such a simplistic calculation brings higher level of uncertainty to the resulting figure, it does demonstrate the importance of the potting industry and the potential opportunity within the array area. During construction, potting vessels will be required to remove pots from areas under construction and either relocate, or bring to shore depending on available grounds and fishing preferences. Potting fishermen will therefore experience loss of earnings for the time taken to relocate gear, and (potentially) a loss of earnings associated with not being able to fish the specific grounds under construction (e.g. if alternative grounds are either not available, or not as productive). Potting typically involves a number of fleets of pots being deployed across a range of areas, and it is therefore unlikely that all pots deployed by a single vessel will be impacted at any one time.

10.9.7 **Netting fishery**: the UK netting fleet targets sole, plaice, cuttlefish and bass using gill and trammel nets. An average annual first sales value of £970,000 landings is taken specifically within the study area by UK netting vessels. IFCA patrol sightings data indicates that netting takes place in inshore grounds, predominantly inshore of the array area.

10.9.8 **Dredge fishery:** the UK dredging fleet target scallop across a relatively wide area offshore. An average annual first sales value of £560,000 landings is taken specifically within the study area by UK dredging vessels. VMS data indicate some dredging within the array area, though the same data indicates that scallop grounds to the south of the array area are significantly more important to this fleet.

10.9.9 **Pelagic trawl fishery:** the UK, Dutch, German and French pelagic trawling fleets are large vessels (typically > 25m in length), targeting highly mobile species (herring and/or mackerel) that consistently move/shoal during spawning migrations. Any activity by pelagic vessels within the array area is highly likely to be a sporadic, transitory event. Highly mobile pelagic species, that move in shoals and are not associated with specific seabed habitats, are assumed to be available to catch across large areas i.e. if a shoal of mackerel cannot be caught within the Rampion 2 array area, this shoal is expected to move to an area where they can be caught. Therefore, while the access to the water column within the Rampion 2 array area may be affected; the opportunity to catch pelagic fish is not lost. Moreover, the landings statistics indicate that limited landings are taken by pelagic vessels from within the study area.

10.9.10 **Beam trawl fishery:** Belgian beam trawlers targeting plaice and sole operate outside of the 6NM limit, and VMS data indicate areas of significant beam trawl activity across the eastern portion of the array area. Average annual landings (based on an average across 2012 – 2016) by Belgian beam trawlers from the study area reach approximately 1,000 tonnes. UK beam trawlers, which target a variety of demersal species including plaice, sole, turbot and cuttlefish, also operate across the array area. Approximately 105 tonnes of fish caught by beam trawlers working in the study area are landed annually by UK vessels (based on an average across 2016 – 2020).

10.9.11 **Demersal otter trawl fishery:** French bottom trawlers targeting a variety of species, but principally whiting and mackerel, are active in the study area. VMS data indicate that this fleet is active across the array area but that fishing grounds to the south and east of the study area are significantly more important to this fleet. UK demersal otter trawlers target a variety of species including horse mackerel, squid, sea breams and plaice. Again, VMS data indicate that this fleet is active across the array area but that fishing grounds to the south and east of the study area are more important to this fleet.

10.9.12 The impact is predicted to be of regional spatial extent, short term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **moderate** for potting fisheries and Belgian beam trawl fisheries, **minor** for dredge, netting, UK beam trawl and demersal otter trawl fisheries and **negligible** for pelagic trawl fisheries.

Sensitivity or value of receptor

10.9.13 The mobile fleets targeting pelagic, dredge and demersal fisheries across the Rampion 2 array area are typically larger vessels that operate across large areas of the English Channel and beyond. Given adequate notification it is expected that these vessels will be in a position to avoid construction areas. All mobile fleets are considered to have a large operational range. All pelagic gear fleets are considered to have an extensive operational range, be highly adaptive and resilient to change.

10.9.14 The mobile fleets targeting pelagic, dredge and demersal fisheries are considered to have moderate-high levels of alternative fishing grounds; are deemed to be of low vulnerability, high recoverability and low-medium value. The sensitivity of these receptors is therefore, considered to be **low**.

10.9.15 The UK potting fleet are typically <15m in length and operate across more distinct areas of ground, typically 0 to 12NM from shore, but also extending beyond 12NM, in areas that are already heavily exploited and are therefore more sensitive to disruption. The UK potting fleet are deemed to be of medium vulnerability, medium recoverability and medium value across the Rampion 2 array area. The sensitivity of the receptor is therefore, considered to be **medium**.

10.9.16 The UK netting fleet are typically <15m in length and operate across more distinct areas of ground, typically inshore of the array area. On this basis, the UK netting fleet are deemed to be of low vulnerability, medium recoverability and low value across the Rampion 2 array area. The sensitivity of the receptor is therefore, considered to be **low**.

Significance of residual effect

10.9.17 The Rampion 2 embedded environmental measures (as shown in **Table 10-12**) include advance notification of planned construction activities to fishermen (C-46), ongoing liaison throughout construction (C-47) and reporting, and where possible recovery of dropped object (C-276).

10.9.18 Taking account of these measures, the residual effect on each fishery is set out immediately below, noting that that effect in all cases will be direct and temporary.

10.9.19 Potting fishery: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is moderate. The effect is of **moderate adverse** significance, which is Potentially **Significant** in EIA terms. In response to this, and specific to the UK potting fleet where there is a significant residual impact, the FLCP (C-194) will explore options to encourage co-existence and further mitigate the effect, including cooperation agreements and any associated payments. With respect to any cooperation agreements and associated payments, the procedures as outlined in the FLOWW guidance documents (2014 and 2015) (C-90), will be followed. Specifically, this will consist of the provision of evidence and data, examples of which include (FLOWW, 2015):

- copy of certificate of registry for each vessel for which a claim is being made;
- copy of a valid MCA certification or equivalent;

- copy of the relevant vessel fishing licences and entitlements for each vessel for which a claim is being made;
- sight of vessels fishing charts and GPS plotter records to provide clear historic evidence of potential disruption in the area of the operations;
- evidence of sales notes where available for an agreed time period;
- fishing accounts of the vessels concerned for an agreed time period;
- fishing vessel or and/or fisheries landings data held by fisheries authorities. Due to the requirements of the Data Protection Act, for access to individual records a declaration will need to be completed in order for records to be released; and
- it may be appropriate to validate sources of evidence not obtained directly from claimants in order to verify accuracy (for example, transcription errors may exist in official landings data). Similarly, corroboration/validation of evidence provided by claimants may be possible via independent sources such as fishery officers, for example.

10.9.20 With the commitment to development of an FLCP (see commitment C-194, **Table 10-12**) that will explore mitigation options including cooperation agreements and associated payments for the UK potting fleet, the impact magnitude is reduced to minor and the residual effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.21 **Netting fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.22 **Dredge fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.23 **Pelagic trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **negligible**. The effect is **negligible**, which is **Not Significant** in EIA terms.

10.9.24 **Beam trawl fishery:** overall, for the UK beam trawl fishery, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. For the Belgian beam trawl fishery, it is predicted that the sensitivity of the receptor is low and the magnitude is moderate. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.25 **Demersal otter trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

Rampion 2 offshore export cable construction activities and physical presence of constructed wind farm infrastructure leading to reduction in access to, or exclusion from established fishing grounds

Overview

10.9.26 Fishing activity will be locally and temporarily excluded at the location of construction owing to the presence of construction vessels, construction operations and the need to observe The Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGS).

Magnitude of impact

10.9.27 This impact will lead to a loss of access to fishing grounds and the fish and shellfish resources within these grounds for a range of fishing opportunities during the construction activities, which will directly affect various fishing fleets over a short-term duration. The impact is predicted to be intermittent and of relevance to international fishing fleets and is described in **paragraph 10.9.28 to 10.9.35** on a fishery basis.

10.9.28 **Potting fishery:** the Rampion 2 offshore export cable corridor overlaps with fishing ground routinely targeted by UK potting vessels targeting cuttlefish, brown crab and lobster using creels and whelk using pots. Whelk is the most valuable species in this area, with approximately 1,300 tonnes landed annually with a first sales value of £1.4 million from the study area (based on five-year average from 2015-2019). Average annual lobster landings have a first sales value of around £420,000; brown crab of £240,000 and cuttlefish of £140,000.

10.9.29 During the construction process vessels with pots set along the Rampion 2 offshore export cable corridor will need to move these pots and cease fishing activities at particular construction locations. The provision of sufficient notice of planned construction activity (see commitment C-46, **Table 10-12**) together with the support of offshore FLOs where appropriate (C-47), will facilitate this process.

10.9.30 **Netting fishery:** the UK netting fleet targets sole, plaice, cuttlefish and bass using gill and trammel nets. An average annual first sales value of £970,000 landings is taken specifically within the study area by UK netting vessels. IFCA patrol sightings data indicate that netting takes place across the Rampion 2 offshore export cable corridor, and indeed across the entire wider inshore area.

10.9.31 **Dredge fishery:** a Sussex IFCA byelaw prohibits fishing by vessels of greater than 14m length inshore of 6NM. Another byelaw establishes a closed season for scallop dredging, running from 1 June to 31 October each year. VMS data confirm very limited dredging activity within the 6NM limit. On this basis, dredging for scallop within the Rampion 2 offshore export cable corridor will be very limited.

10.9.32 **Pelagic trawl fishery:** the UK and EU pelagic trawling fleets are comprised of large vessels (typically > 25m in length). A Sussex IFCA byelaw prohibits fishing by vessels of greater than 14m length inside of the 6NM limit. On this basis, pelagic fisheries within the Rampion 2 offshore export cable corridor will be very limited.

10.9.33 **Beam trawl fishery:** Belgian beam trawlers targeting plaice and sole are understood to primarily operate outside of the 6NM limit, and thus there is limited Belgian beam trawl activity in the offshore cable corridor. VMS data indicate limited UK beam trawl activity in the offshore export cable corridor.

10.9.34 **Demersal otter trawl fishery:** French bottom trawlers targeting a variety of species, but principally whiting and mackerel, are active in the study area but based on vessel size are expected to operate outside of the 6NM limit. VMS data and IFCA patrol sightings data indicate that UK demersal otter trawlers fish within the export cable corridor. The former indicates that demersal fishing grounds to the south and east of the study area are more important to this fleet.

10.9.35 The impact is predicted to be of regional spatial extent, short term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be moderate for potting fisheries, minor for dredge, netting, UK beam trawl and Demersal otter trawl fisheries and negligible for Belgian beam trawl and pelagic trawl fisheries.

Sensitivity or value of receptor

10.9.36 The sensitivity of receptors is broadly as described in **paragraphs 10.9.13 to 10.9.16**.

10.9.37 The mobile fleets targeting pelagic, dredge and demersal fisheries are considered to have high levels of alternative fishing grounds; are deemed to be of low vulnerability, high recoverability and low-medium value. The sensitivity of these receptors is therefore, considered to be **low**. The UK potting fleet are deemed to be of medium vulnerability, medium recoverability and **medium** value. The sensitivity of the receptor is therefore, considered to be **medium**. The UK netting fleet, understood to be more active inside of the 6NM limit, are deemed to be of medium vulnerability, medium recoverability and medium value. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of residual effect

10.9.38 The Rampion 2 embedded environmental measures (as shown in **Table 10-12**) include advance notification of planned construction activities to fishermen (C-46) and ongoing liaison throughout construction (C-47).

10.9.39 Taking account of these measures, the residual effect on each fishery is set out immediately below, noting that that effect in all cases will be direct and temporary.

10.9.40 Potting fishery: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **moderate**. The effect is of **moderate adverse significance**, which is Potentially Significant in EIA terms. In response to this, and specific to the UK potting fleet where there is a **significant** residual impact, the FLCP (C-194) will explore options to encourage co-existence and further mitigate the effect, including cooperation agreements and any associated payments. With respect to any cooperation agreements and associated payments, the procedures as outlined in the FLOWW guidance documents (2014 and 2015) (C-90), will be followed. Specifically, this will consist of the provision of evidence and data, examples of which include (FLOWW, 2015):

- copy of certificate of registry for each vessel for which a claim is being made;
- copy of a valid MCA certification or equivalent;
- copy of the relevant vessel fishing licences and entitlements for each vessel for which a claim is being made;
- sight of vessels fishing charts and GPS plotter records to provide clear historic evidence of potential disruption in the area of the operations;
- evidence of sales notes where available for an agreed time period;
- fishing accounts of the vessels concerned for an agreed time period;
- fishing vessel or and/or fisheries landings data held by fisheries authorities. Due to the requirements of the Data Protection Act, for access to individual records a declaration will need to be completed in order for records to be released; and
- it may be appropriate to validate sources of evidence not obtained directly from claimants in order to verify accuracy (for example, transcription errors may exist in official landings data). Similarly, corroboration/validation of evidence provided by claimants may be possible via independent sources such as fishery officers, for example.

10.9.41 With the commitment to development of an FLCP (C-194, **Table 10-12**) that will explore mitigation options including cooperation agreements and associated payments for the UK potting fleet, the impact magnitude is reduced to minor and the residual effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.42 **Netting fishery:** overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is minor. The effect is **minor adverse**, which is **Not Significant** in EIA terms.

10.9.43 **Dredge fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.44 **Pelagic trawl fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **negligible**. The effect is **negligible**, which is **Not Significant** in EIA terms.

10.9.45 **Beam trawl fishery**: overall, for the UK beam trawl fishery, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. For the Belgian beam trawl fishery, it is predicted that the sensitivity of the receptor is low and the magnitude is **negligible**. The effect is of **negligible** significance, which is **Not Significant** in EIA terms.

10.9.46 **Demersal otter trawl fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

Displacement from Rampion 2 array area leading to gear conflict and increased fishing pressure on adjacent grounds

Overview

10.9.47 Localised exclusion from fishing grounds during construction in the Rampion 2 array area may lead to temporary increases in fishing effort in other areas that may already be exploited thereby leading to gear conflict and increased fishing pressure on adjacent grounds.

Magnitude of impact

10.9.48 The impact is predicted to be of regional spatial extent, short-term duration, intermittent and with medium reversibility. It is predicted that the impact will affect the receptor directly. The impact is of relevance to international fishing fleets as described below.

10.9.49 Potting fishery: conflict over diminished grounds may occur if displaced vessels operating mobile gear explore grounds traditionally fished by potters; and/or displaced potting gear is relocated into actively fished potting grounds. While potting activity is most prominent in areas inshore from the array area, the offshore potting fleet is understood to operate within the array area. Displacement of mobile gear may therefore increase the risk of interaction with potting gear. For mobile gear, displacement could be expected to be focused on alternative established grounds both in the vicinity of Rampion 2 array area and throughout the English Channel, thereby reducing displacement onto potting grounds. However, consultation indicates that industry is concerned that spatial restrictions due to the construction of the Rampion 2 array area will increase gear conflict. In practice, conflict can lead to the entanglement of potting lines, which is time consuming to separate and can create operational difficulties (for example, the lines have to be cut and re-tied at each pot to disentangle and reassemble the string of pots).

10.9.50 When considering the impact of potters being displaced from the array area into grounds already targeted by potters two scenarios are feasible:

- alternative fishing grounds are available to relocate gear, in which case gear conflict and displacement effects will be low; or
- alternative fishing grounds are not available as adjacent areas are already being fished by potters, in which case the gear already on the ground limits the level of displacement. While there remains potential for gear conflicts and increased fishing pressure to arise, appropriately mitigated exclusion impacts will limit this (see **paragraph 10.9.19**).

10.9.51 RED will seek to ensure that exclusion impacts are appropriately mitigated to minimise the displacement effect, e.g. such that displaced pots are not actively deployed during the period of mitigation (e.g. left open, or stored on land), or if deployed, they are done so in a manner that avoids or minimises gear interaction.

10.9.52 On balance, the displacement effect to potters targeting the Rampion 2 array area is considered to have a lower magnitude of impact than the exclusion impact causing the displacement (as set out in **paragraph 10.9.12**). Taking all of these

aspects into consideration, the magnitude of the displacement impact is assessed to be minor for UK potters.

10.9.53 Netting fishery: displacement from Rampion 2 array area is not expected to affect the netting fishery since it is understood to predominantly take place in waters inside of the 6NM limit.

10.9.54 Dredge fishery: displacement from Rampion 2 array area is not expected to affect the dredge fishery operating between 6 to 12NM from the coast since key fishing grounds and therefore dredge fishery activity are located outside of the array area.

10.9.55 Pelagic trawl fishery: pelagic trawlers that may occasionally operate within the Rampion 2 array area, fish throughout the English Channel and beyond, across a range of established fishing grounds. Displacement is not expected to affect mobile fleets.

10.9.56 Beam trawl fishery: VMS data indicate that there are large areas surrounding the Rampion 2 array area that are targeted by the same beam trawl gear types used within the array area. Whether or not displaced vessels are likely to disperse into these areas depends on the normal fishing patterns of the fleets targeting the area. Displacement is not expected to affect mobile fleets.

10.9.57 Demersal otter trawl fishery: VMS data indicate that there are large areas surrounding the Rampion 2 array area that are targeted by the same beam trawl gear types used within the array area. Whether or not displaced vessels are likely to disperse into these areas depends on the normal fishing patterns of the fleets targeting the area. Displacement is not expected to affect mobile fleets.

10.9.58 The impact is predicted to be of regional spatial extent, short term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **moderate** for potting fisheries, **minor** for dredge, netting, beam trawl and demersal otter trawl fisheries and **negligible** for pelagic trawl fisheries.

Sensitivity or value of receptor

10.9.59 All mobile commercial fisheries fleets, and the netting fleet (which predominantly operates inshore of the array area), operating within the Rampion 2 array area are considered to have high availability of alternative fishing grounds (including current focus of effort), and an operational range that is not limited to the Rampion 2 array area. All mobile fleets are deemed to be of low vulnerability, high recoverability and medium value. The sensitivity of all mobile fleets is therefore, considered to be **low**.

10.9.60 The UK potting fleet operates across large areas inshore from and within the Rampion 2 array area. This form of static fishing gear is considered to have a high vulnerability to gear conflict interactions since it is left unattended on the seabed. It is expected that any displacement from mobile vessels may lead to exploring other fishing grounds outside the Rampion 2 array area, which includes areas currently targeted by potters. The UK potting fleet are, therefore, deemed to be of high vulnerability, with medium recoverability and medium value. The sensitivity of the UK potting fleet is therefore, considered to be **medium**.

Significance of residual effect

10.9.61 Potting fishery: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.62 Netting fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.63 Dredge fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.64 Pelagic trawl fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is negligible. The effect is **negligible**, which is **Not Significant** in EIA terms.

10.9.65 Beam trawl fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.66 Demersal otter trawl fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

Displacement from Rampion 2 offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds

Overview

10.9.67 Exclusion from fishing grounds during construction in the offshore cable corridor may lead to temporary increases in fishing effort in other areas that may already be exploited thereby leading to gear conflict.

Magnitude of impact

10.9.68 The impact is predicted to be of regional spatial extent, medium-term duration, intermittent and with medium reversibility. It is predicted that the impact will affect the receptor directly. The impact is of relevance to international fishing fleets as described below.

10.9.69 Potting fishery: vessels deploying traps and pots across the Rampion 2 offshore export cable corridor will be required to temporarily relocate gear to other grounds during the construction phase. Each individual vessel may deploy a range of pot numbers e.g. from 300 to 3,000 pots. However, it is not likely that all fleets (or traps/pots from one vessel) will overlap the offshore export cable corridor given that a number of fleets of pots and a range of grounds are targeted at any given time. Due to the volumes of gear, vessels leave their pots on the ground (i.e. do not bring pots back to shore in between fishing trips, with the exception of carrying out gear maintenance on specific pots/strings).

10.9.70 When considering the impact of potters being displaced from the offshore export cable corridor into grounds already targeted by potters two scenarios are feasible:

- alternative fishing grounds are available to relocate gear, in which case gear conflict and displacement effects will be low; or
- alternative fishing grounds are not available as adjacent areas are already being fished by potters, in which case the gear already on the ground limits the level of displacement. While there remains potential for gear conflicts and increased fishing pressure to arise, appropriately mitigated exclusion impacts will limit this.

10.9.71 RED will seek to ensure that, via development and implementation of an FLCP, exclusion impacts are appropriately mitigated to minimise the displacement effect, e.g. such that displaced pots are not actively deployed during the period of mitigation (e.g. left open, or stored on land), or if deployed, they are done so in a matter that avoids or minimises gear interaction.

10.9.72 On balance, the displacement effect to potters targeting the Rampion 2 offshore cable corridor is considered to have a lower magnitude of impact than the exclusion impact causing the displacement (see **paragraph 10.9.35**). Taking all of these aspects into consideration, the magnitude of the displacement impact is assessed to be minor for UK potters.

10.9.73 **Netting fishery:** displacement from Rampion 2 offshore export cable corridor is expected to have some effect on the netting fishery. Fixed nets are considered to be static gear since they remain in situ for a period of time, and there is some potential for vessels being required to temporarily relocate gear to other grounds during the construction phase. Netting activity is understood to take place across a wide inshore area and ongoing consultation is seeking to further understand the location of any key grounds and the nature of gear deployment.

10.9.74 **Dredge fishery:** displacement from Rampion 2 offshore export cable corridor is not expected to affect the dredge fishery since key fishing grounds and therefore dredge fishery activity are located outside of the offshore export cable corridor.

10.9.75 **Pelagic trawl fishery**: displacement from Rampion 2 offshore export cable corridor is not expected to affect pelagic trawlers since key fishing grounds are located outside of the offshore export cable corridor.

10.9.76 **Beam trawl fishery:** displacement from Rampion 2 offshore cable corridor is not expected to affect beam trawlers since key fishing grounds are located outside of the offshore export cable corridor.

10.9.77 **Demersal otter trawl fishery**: displacement from Rampion 2 offshore export cable corridor is not expected to affect Demersal otter trawlers since key fishing grounds are located outside of the offshore cable corridor.

10.9.78 The impact is predicted to be of regional spatial extent, short term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be moderate for potting fisheries, **minor** for dredge, netting, beam trawl and Demersal otter trawl fisheries and **negligible** for pelagic trawl fisheries.

Sensitivity or value of receptor

10.9.79 The sensitivity is as assessed in **paragraphs 10.9.13 to 10.9.16** above and considered to be **low** for all mobile fleets and **medium** for the UK potting and netting fleet.

Significance of residual effect

10.9.80 Potting fishery: overall, it is predicted that the sensitivity of the receptor is **medium** and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.81 Netting fishery: overall, it is predicted that the sensitivity of the receptor is **medium** and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.82 Dredge fishery: overall, it is predicted that the sensitivity of the receptor is **low** and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.83 Pelagic trawl fishery: overall, it is predicted that the sensitivity of the receptor is **low** and the magnitude is **negligible**. The effect is **negligible**, which is **Not Significant** in EIA terms.

10.9.84 Beam trawl fishery: overall, it is predicted that the sensitivity of the receptor is **Low** and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.85 Demersal otter trawl fishery: overall, it is predicted that the sensitivity of the receptor is **low** and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

Rampion 2 array area and offshore cable corridor construction activities leading to disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity

Overview

10.9.86 Temporary displacement due to noise and seabed disturbances during construction activities may decrease or displace commercially important fish and shellfish populations from the area. This section assesses the potential temporary subsequent impact for the owners of fishing vessels, where commercially important stocks may be disturbed or displaced to a point where normal fishing practices will be affected.

Magnitude of impact

10.9.87 Detailed assessments of the following potential construction impacts have been undertaken in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8)**:**

- mortality, injury, behavioural changes and auditory masking arising from noise and vibration;

- direct disturbance resulting from the installation of the export cable;
- direct disturbance resulting from construction within the array;
- temporary localised increases in Suspended Sediment Concentration (SSC) and smothering; and
- seabed disturbances leading to the release of sediment contaminants.

10.9.88 With respect to the magnitude of this impact on commercial fisheries, the overall significance of the effect on fish and shellfish species is considered (i.e. both the magnitude and sensitivity of fish and shellfish species are considered to assess the magnitude on commercial fishing fleets). This is because the overall effect on the fish and/or shellfish species relates directly to the availability and amount of exploitable resource. For instance, where an effect of negligible significance is assessed for a species, a negligible magnitude is assessed for commercial fishing; where an effect of minor adverse significance is assessed for a species, a minor magnitude is assessed for commercial fishing, and so on.

10.9.89 Details of the fish and shellfish ecology assessment are summarised in **Table 10-16**; justifications for this assessment will not be repeated in this chapter. Evidence, modelling and justifications for these assessments are provided in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8).

10.9.90 The impact is predicted to be of regional spatial extent, of relevance to international fishing fleets, and of short-term duration. It is predicted that the impact will affect the receptor directly through loss of resources. The magnitude is therefore considered to be minor for all species and all potential impacts with the exception of impacts on black seabream, where potential impacts are considered to be of moderate to major magnitude (i.e. partial to substantial loss of targeted fish resource).

Table 10-16 Significance of effects of construction impacts on fish and shellfish ecology

Potential impact	Species	Significance of effect
Mortality, injury, behavioural changes and auditory masking arising from noise and vibration	Black seabream	Moderate adverse
	Other fish and shellfish	Minor adverse
Direct disturbance resulting from the installation of the export cable	Black seabream	Major adverse
	Other fish and shellfish	Minor adverse

Potential impact	Species	Significance of effect
Direct disturbance resulting from construction within the array	All fish and shellfish	Minor adverse
Temporary localised increases in SSC and smothering	Black seabream	Moderate adverse
	Other fish and shellfish	Minor adverse
Direct and indirect seabed disturbances leading to the release of sediment contaminants	All fish and shellfish	Minor adverse

Sensitivity or value of receptor

10.9.91 There is potential for fishing grounds beyond the immediate construction activities to be affected by these impacts. Exposure to the impact is likely and commercial fleets targeting key species will be affected, including those targeting shellfish species.

10.9.92 There is potential for shellfish grounds beyond the immediate construction activities to be affected by increased suspended sediment and sediment deposition, impacting the wider potting and dredge fleets. The potting fleet is deemed to be of medium vulnerability, medium recoverability and medium-high value. The sensitivity of the receptor is therefore, considered to be **medium**. The dredge fishery is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be **medium**.

10.9.93 Due to the range of alternative areas targeted and the distribution of key commercial species throughout the English Channel, all other fleets are deemed to be of low vulnerability, high recoverability and medium-low value. The sensitivity of the receptor for netting, pelagic and demersal fisheries is therefore, considered to be low, noting that minimal landings of black seabream have been recorded from the study area since 2018 (less than 0.3 tonnes per year).

Significance of residual effect

10.9.94 Netting, pelagic and demersal fisheries: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. In the specific case of black seabream, the sensitivity of the receptor is low and the magnitude is moderate-major; the effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification for this minor adverse significance is based on very limited targeting of black seabream commercially.

10.9.95 Potting and dredge fisheries: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is minor. The effect is of **minor adverse**

significance, which is **Not Significant** in EIA terms. The justification for this minor adverse significance is based on the highly localised effects on resources.

Increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity

Overview

10.9.96 This assessment focuses on the potential impact of Rampion 2 related vessel traffic and changes to shipping patterns as a result of navigational channels leading to interference with fishing activity (i.e. reduced access) during construction.

Magnitude of impact

10.9.97 Vessel movements (i.e. construction vessels transiting to and from areas undergoing construction works) related to the construction of Rampion 2 will add to the existing level of shipping activity in the area (see **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13) for a full assessment of additional vessel movements).

10.9.98 It is noted that continuous liaison with the fishing industry will be undertaken including location and duration of construction activities; further details are provided in an Outline Fisheries Coexistence and Liaison Plan which is included as part of the DCO Application.

10.9.99 All fishing fleets are considered to be able to avoid vessel movements related to Rampion 2 construction. The impact is predicted to be of regional spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be minor for all fisheries.

Sensitivity or value of receptor

10.9.100 Construction traffic is likely to constrain most potting and netting activity across established construction supply routes due to the vulnerability of the marker buoys to the propellers of passing construction vessels. It is noted that shipping routes do currently cross the offshore cable corridor and array area, and that the construction vessels are likely to follow these routes where possible. The UK potting and netting fisheries are deemed to be of high vulnerability, high recoverability and medium-high value. The sensitivity of these receptors is therefore, considered to be **medium**.

10.9.101 All other fishery fleets are expected to be in a position to avoid the Rampion 2 construction areas. Trawl and dredge fisheries (including beam trawl, otter trawl, pelagic trawl and dredge) are deemed to be of low vulnerability, high recoverability and medium-high value. The sensitivity of the receptor is therefore, considered to be **low**.

Significance of residual effect

10.9.102 The Rampion 2 embedded environmental measures (as shown in **Table 10-12**) include advance notification of planned construction activities to fishermen (C-46) and ongoing liaison throughout construction (C-47). Taking account of these measures, the residual effect on each fishery is set out immediately below, noting that that effect in all cases will be direct and temporary.

10.9.103 Potting fishery: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.104 Netting fishery: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.105 Dredge fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effec is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.106 Pelagic trawl fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.107 Beam trawl fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.108 Demersal otter trawl fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

Additional steaming to alternative fishing grounds for vessels that would otherwise be fishing within the Rampion 2 area

Overview

10.9.109 A detailed Navigational Risk Assessment has been undertaken within **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13), which includes full consideration of commercial fishing vessels while transiting (e.g. from a collision and allision perspective). This assessment focuses on the potential impact of longer steaming distances to alternative fishing grounds while construction processes are ongoing.

Magnitude of impact

10.9.110 The impact is predicted to be of regional spatial extent, of relevance to international fishing fleets, and of medium-term duration. It is predicted that the impact will affect the receptor directly.

10.9.111 The construction programme for Rampion 2 will be communicated through Notice to Mariners and Kingfisher Bulletins with ample warning provided. Construction works will only necessitate minor deviations for fishing vessels transiting along the

offshore cable route and through the array area during the construction phase. Localised impacts are anticipated but will be limited to the immediate area of construction activity and associated construction vessels. The magnitude is therefore, considered to be **minor** for all fishing fleets.

Sensitivity or value of receptor

10.9.112 The UK mobile fleets targeting the Rampion 2 array area and the offshore cable corridor are expected to operate across wider areas of the English Channel and in the case of larger vessels, beyond this range. Given adequate notification it is expected that these vessels will be in a position to avoid construction areas with limited impact upon steaming times.

10.9.113 The UK potting and netting fleets targeting the Rampion 2 offshore cable corridor operate across a range of grounds to haul and re-set different fleets of traps/pots/nets on a daily basis. Their normal operating range is expected to extend well beyond the roaming advisory safety distance of 500m radius that will be requested around large installation vessels. Given adequate notification it is expected that these vessels will be in a position to avoid construction areas with limited impact upon steaming times.

10.9.114 The UK pelagic fleets and EU fleets are unlikely to be operating from key local ports along the coast adjacent to Rampion 2. Given adequate notification it is expected that these vessels will be in a position to avoid construction areas with no or minimal impact upon steaming times.

10.9.115 Vessel traffic survey data presented in **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13) suggests that fishing vessels actively steam through the existing Rampion 1 project area. However, there is a marked seasonal difference when comparing summer traffic data, which indicates high levels of steaming through the operational Rampion Offshore Wind Farm, and winter traffic data, which indicates negligible activity through the existing Rampion 1 project area. The reason for this seasonal difference could be associated with lower levels of activity overall (although landings occur throughout the year), or judgement of vessel operators to avoid the area in inclement weather.

10.9.116 All commercial fisheries fleets are considered to have medium to high availability of alternative fishing grounds and an operational range that is not limited to the Rampion 2 area. The sensitivity of the receptor is therefore, considered to be medium for UK fishing fleets and **low** for EU and pelagic fleets.

Significance of residual effect

10.9.117 UK commercial fishing fleets: overall, it is predicted that the sensitivity of the receptor is considered to be medium and the magnitude is deemed to be minor. The effect will, therefore, be of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.9.118 EU and pelagic commercial fishing fleets: overall, it is predicted that the sensitivity of the receptor is considered to be low and the magnitude is deemed to be minor. The effect will, therefore, be of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10 Assessment of effects: Operation and maintenance phase

Introduction

10.10.1 The following impacts of the offshore operation and maintenance phase of Rampion 2 have been assessed on commercial fisheries.

- Physical presence of Rampion 2 array area infrastructure leading to reduction in access to, or exclusion from established fishing grounds;
- Physical presence of offshore export cable and infrastructure within the Rampion 2 offshore cable corridor leading to reduction in access to, or exclusion from established fishing grounds
- Displacement from Rampion 2 array area and offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds;
- Rampion 2 operation and maintenance activities leading to displacement or disruption of commercially important fish and shellfish resources;
- Increased vessel traffic within fishing grounds as a result of changes to shipping routes and maintenance vessel traffic from Rampion 2 leading to interference with fishing activity;
- Physical presence of Rampion 2 array area infrastructure leading to gear snagging;
- Physical presence of the export cable and associated infrastructure leading to gear snagging; and
- Additional steaming to alternative fishing grounds for vessels that would otherwise be fishing within the Rampion 2 area.

10.10.2 The environmental impacts arising from the operation and maintenance of Rampion 2 are listed in **Table 10-9** alongside the maximum design scenario against which each operation and maintenance phase impact has been assessed.

10.10.3 A description of the potential effect on commercial fisheries receptors caused by each identified impact is given below.

Physical presence of Rampion 2 array area infrastructure leading to reduction in access to, or exclusion from established fishing grounds

Overview

10.10.4 The assessment assumes that commercial fisheries will be prevented from actively fishing within the footprint of installed infrastructure within the Rampion 2 array area together with associated safety zones for maintenance activities and assumed operating distances, as set out in **Table 10-11**. Minimum WTG spacing is 950, including between WTGs and all other infrastructure.

10.10.5 Out with this area, the assessment assumes that fishing will be possible within the Rampion 2 array area where WTG spacing and WTG layout allow productive

grounds to be targeted, with the exception of safety zones around infrastructure undergoing major maintenance and advisory safety distances around vessels undertaking major maintenance activities. In addition, the individual decisions made by the skippers of fishing vessels with their own perception of risk will determine the likelihood of whether their fishing will resume within the Rampion 2 array area. Inclement weather will be a significant contributor to this risk perception. The type and dimension of fishing gear also influences the potential opportunities within the array area. For example, trawl gears typically require a greater distance for safe operation and these gears are unlikely to target grounds in the vicinity of infrastructure.

10.10.6 As presented in **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13), marine traffic survey data indicate that fishing vessels, particularly those originating from Shoreham and Newhaven, are transiting through the existing Rampion 1 project area to fishing grounds. Data also indicates that some vessels are actively fishing in the Wind Farm. The data indicates the effect of inclement weather on fishing vessel activity, which is significantly reduced in winter months in the existing Rampion 1 project area.

Magnitude of impact

10.10.7 This impact will lead to localised loss of access to fishing grounds and the fish and shellfish resources within these grounds for a range of fishing opportunities during the operational and maintenance phase, which will directly affect fleets over a long-term duration. The impact is predicted to be continuous with low reversibility for the lifetime of Rampion 2 and is of relevance to international fishing fleets.

10.10.8 Evidence on the value and importance of the Rampion 2 array area to commercial fishing fleets is the same as that presented for construction in **paragraphs 10.9.6 to 10.9.11**.

10.10.9 Potting fisheries: a recent study by Roach et al. (2018) investigated the effect of the construction and operation of the Westermost Rough offshore wind farm on established lobster fishing grounds (noting that this site lies approximately 8km off the Holderness coast). The study concluded that:

- the temporary closure during the construction period offered some respite from fishing pressure for adult lobsters and led to an increase in abundance and size of lobster in the wind farm area;
- reopening of the site to fishing exploitation saw a decrease in catch rates and size structure, but this did not reach levels below that of the surrounding area;
- opening the site to exploitation allowed the fishery to recuperate some of the economic loss during the closure; and
- finally, the authors conclude that temporary closures of selected areas may be beneficial to lobster fisheries and should be considered as a management option for lobster fisheries.

10.10.10 A more recent study by Roach et al. (2022) examined further Westermost Rough lobster fisheries monitoring data gathered in 2019. The study reiterated that the increased catch rates and proportion of larger lobsters observed following wind farm construction could be attributed to temporary closure of the wind farm area

during construction. During the operational phase of the wind farm, monitoring data indicates no long-term effect of the wind farm on lobster catch rates or size distribution. It is therefore expected that potting activity will resume within the Rampion 2 array area during the operation and maintenance phase and that catch rates will, most likely, initially be higher than comparable grounds outside the array area, before returning to similar baseline levels.

10.10.11 Netting fishery: based on the predominance of netting located in inshore areas, and not within the array area, the presence of Rampion 2 is not expected to restrict the baseline operation of static netting activity.

10.10.12 Dredge fishery: the Rampion 2 array area is located at the northernmost extent of established scallop grounds. The presence of Rampion 2 array area is not expected to restrict the baseline operation of scallop dredge fisheries.

10.10.13 Pelagic trawl fishery: midwater trawls are designed to catch species living anywhere in the water column above the seafloor, including at the surface. Acoustic technology is used to locate the position and depth of the target fish shoal and the path of the boat and depth of the net are adjusted accordingly. Based on the gear width and operational method that requires space to set the trawl net and move into the path of the fish shoal, it is unlikely that pelagic gear will be operated within the array area. However, given the infrequent nature of pelagic fisheries, together with the opportunity to catch the target, highly mobile species when it moves outside the area, the presence of the Rampion 2 array area is not expected to restrict the baseline operation of pelagic fisheries throughout the English Channel and beyond.

10.10.14 Beam trawl and Demersal otter trawl fishery: the degree to which demersal mobile gear can resume within Rampion 2 offshore array is uncertain and dependant on a number of factors including gear type, width of gear spread when in seabed contact and the vessel skipper's risk perception. A study by Gray et al. (2016) explored changes to fishing practices as a result of the development of offshore wind farms in the Irish Sea. Through industry interviews with mobile demersal otter trawlers targeting Nephrops grounds, it was found that for those fishermen who claimed to have operated on fishing grounds now occupied by WTGs, the majority stated they had not returned or had reduced their fishing effort within the wind farm area two or more years after construction. The main reason for the reduction in effort was increased actual risk associated with the presence of wind farm infrastructure and overall heightened perceived risk (Gray et al., 2016). The study did find a small number of fishermen operating inside the wind farm areas.

10.10.15 While otter trawl fisheries are expected to experience reduced access to the Rampion 2 array area, the evidence indicates that the array area is not heavily targeted in comparison to areas outside the array area, notably to the east and south. Overall, the presence of the Rampion 2 array area is unlikely to lead to an overall decline in landings for these fisheries.

10.10.16 Beam trawl fisheries are typically less likely to operate within a wind farm due to the depth of ground penetration of the gear, coupled with the spread of gear either side of the vessel. VMS data indicate that the large majority of beam trawl effort in the region is by non-UK, EU Member State vessels. The degree to which these EU registered vessels will have access to UK territorial waters during the operational phase of Rampion 2 is uncertain. The beam trawl fishery primarily targets sole and

plaice, which are both quota species, exploited across a range of grounds throughout the North Sea and English Channel. Overall, whilst a degree of access will be restricted, the presence of Rampion 2 array area is unlikely to lead to an overall decline in landings for these fisheries.

10.10.17 The impact is predicted to be of regional spatial extent, long term duration, continuous and with low reversibility. It is predicted that the impact will affect the receptor directly. Based on the justifications above, the magnitude is therefore, considered to be **moderate** for Belgian beam trawl, **minor** for potting, UK beam trawl and demersal otter trawl fisheries, and **negligible** for pelagic fisheries.

Sensitivity or value of receptor

10.10.18 The sensitivity of the commercial fisheries receptors is the same as that presented for construction in **paragraphs 10.9.13 to 10.9.16**, summarised as **low** for mobile pelagic, demersal and dredge fisheries, **low** for UK netting fisheries, and **medium** for UK potting fisheries.

Significance of residual effect

10.10.19 Potting fishery: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.20 Netting fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.21 Dredge fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.22 Pelagic trawl fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **negligible**. The effect is **negligible**, which is **Not Significant** in EIA terms.

10.10.23 Beam trawl fishery: overall, for the beam trawl fishery, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor** for the UK fleet and **moderate** for the Belgian fleet. The effect is **minor adverse** significance for the Belgian fleet and **negligible** for the UK fleet, which is **Not Significant** in EIA terms.

10.10.24 Demersal otter trawl fishery: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

Physical presence of offshore export cable and infrastructure within the Rampion 2 offshore cable corridor leading to reduction in access to, or exclusion from established fishing grounds

Overview

10.10.25 Temporary 500m safety zones and advisory safety distances requested around vessels engaged in export cable repair works, could limit fishing opportunities within localised areas.

10.10.26 The European Subsea Cables Association notes that cables are potentially subsea hazards, and that while great effort is made to bury and protect them, mariners should never assume that cables are completely buried. Furthermore, the Mariners Handbook advises that: *"every care should be taken to avoid anchoring, trawling, fishing, dredging, drilling or carrying out any other activity in the vicinity of cables which might damage them".*

10.10.27 Notwithstanding this, subsea cables are widespread throughout the waters of Europe, providing power and telecommunications links, and it is understood that fishing does take place in the vicinity of subsea cables (KIS-ORCA, 2022).

Magnitude of impact

10.10.28 For the purposes of this assessment, it is assumed that fishermen will be well informed of the location and integrity of the offshore export cables i.e., locations of protection, details of routine cable integrity surveys and location and schedule for any maintenance works, and that based on this knowledge will seek to exploit grounds across the offshore export cables with caution. The assessment therefore assumes that fishing will resume within the vicinity of the export cables.

10.10.29 Notices to Mariners will be issued in advance of any maintenance works. Potting vessels may be required to temporarily relocate pots during maintenance works, although such works are likely to be infrequent.

10.10.30 Pelagic trawl gear does not come into contact with the seabed and therefore the presence of the offshore export cables will not affect potential fishing opportunities.

10.10.31 The impact is predicted to be of local spatial extent and of short-term duration for maintenance works that may be required along the export cables. It is predicted that the impact will affect the receptor directly. Given that fishing is likely to resume across the majority of the Rampion 2 offshore cable corridor, the magnitude is considered to be **negligible** for pelagic fisheries and **minor** for all other fishing fleets.

Sensitivity or value of receptor

10.10.32 The mobile fleets targeting pelagic, dredge and demersal fisheries are considered to have high levels of alternative fishing grounds; are deemed to be of low vulnerability, high recoverability and low-medium value. The sensitivity of these receptors is therefore, considered to be low. The UK potting fleet are deemed to be of medium vulnerability, medium recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium. The UK netting

fleet, understood to be more active inside of the 6NM limit, are deemed to be of medium vulnerability, medium recoverability and medium value. The sensitivity of the receptor is therefore, considered to be **medium**.

Significance of residual effect

10.10.33 **Potting fishery:** overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification of this minor adverse significance is based on the very high likelihood of resumption of fishing by potting vessels across the offshore export cable corridor.

10.10.34 **Netting fishery:** overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification of this minor adverse significance is based on the very high likelihood of resumption of fishing by netting vessels across the offshore export cable corridor.

10.10.35 **Dredge fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification of this minor adverse significance is based on the key scallop grounds being located outside of the offshore export cable corridor.

10.10.36 **Pelagic trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **negligible**. The effect is **negligible**, which is **Not Significant** in EIA terms.

10.10.37 **Beam trawl fishery:** overall, for the UK beam trawl fishery, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.38 **Demersal otter trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

Displacement from Rampion 2 array area and offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds

Overview

10.10.39 Exclusion from fishing grounds during operation and maintenance of Rampion 2 may lead to increases in fishing effort in other areas that may already be exploited thereby leading to gear conflict.

Magnitude of impact

10.10.40 The magnitude of impact of displacement during the operational and maintenance phase is expected to be similar or slightly lower than the minor magnitude assessed during construction for all commercial fishing fleets deploying mobile gear (see **paragraphs 10.9.48 to 10.9.58**). Given that potting and netting can

resume across the Rampion 2 offshore export cable corridor and within the array area, the magnitude for UK potters and netters is considered to be minor.

10.10.41 The impact is predicted to be of regional spatial extent, short term duration, intermittent and with high reversibility. It is predicted that the impact will affect the receptor directly. Based on the justifications above, the magnitude is therefore considered to be **minor** for potting, netting, dredge, netting, beam trawl and demersal otter trawl fisheries and **negligible** for pelagic trawl fisheries.

Sensitivity or value of receptor

10.10.42 The sensitivity of the commercial fisheries receptors is the same as that presented for construction in **paragraphs 10.9.59 to 10.9.60**, summarised as **low** for mobile fleets and **medium** for the UK potting and netting fleet.

Significance of residual effect

10.10.43 **Potting fishery:** overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification of this minor adverse significance is based on the very high likelihood of resumption of fishing by potting vessels across the offshore export cable corridor.

10.10.44 **Netting fishery:** overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification of this minor adverse significance is based on the very high likelihood of resumption of fishing by netting vessels across the offshore export cable corridor.

10.10.45 **Dredge fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification of this significance is based on the key scallop grounds being located to the south of Rampion 2.

10.10.46 **Pelagic trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **negligible**. The effect is **negligible**, which is **Not Significant** in EIA terms.

10.10.47 **Beam trawl fishery**: overall, for the UK beam trawl fishery, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.48 **Demersal otter trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

Rampion 2 operation and maintenance activities leading to displacement or disruption of commercially important fish and shellfish resources

Magnitude of impact

10.10.49 Detailed assessments of the following potential operation and maintenance impacts have been undertaken in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8)

- long-term loss of habitat and increased hard substrate and structural complexity due to the presence of WTG foundations, scour protection and cable protection;
- electromagnetic field (EMF) impacts arising from cables; and
- direct disturbance resulting from maintenance within the array area and the offshore export cable corridor.

10.10.50 The approach to this assessment follows that outlined for construction, with details of the fish and shellfish ecology assessment summarised in **Table 10-17**.

10.10.51 The impact is predicted to be of regional spatial extent, of relevance to international fishing fleets, and of short-term duration. It is predicted that the impact will affect the receptor directly through loss of resources.

10.10.52 The magnitude is therefore considered to be negligible to minor for all species and all potential impacts with the exception of impacts on black seabream, where potential impacts are considered to be of moderate magnitude in relation to habitat loss (i.e. partial loss of targeted fish resource).

Table 10-17 Significance of effects of operation and maintenance impacts on fish and shellfish ecology

Potential impact	Species	Significance of effect
Long-term loss of habitat and increased hard substrate and structural complexity due to the presence of WTG foundations, scour protection and cable protection	Habitat loss - black seabream	Moderate adverse
	Habitat loss - herring	Negligible adverse
	Habitat loss - all other fish and shellfish species	Minor adverse
	Increased hard substrate - herring	Minor adverse
	Increased hard substrate - all other fish and shellfish species	Minor adverse
	Shellfish	Minor adverse

Potential impact	Species	Significance of effect
Electromagnetic field (EMF) impacts arising from cables	Migratory fish species	Minor adverse
	All other fish and shellfish species	Minor adverse
Direct disturbance resulting from maintenance within the array area and the offshore cable corridor	Black seabream, brown crab, lobster, scallop	Minor adverse
	All fish and shellfish species	Minor adverse

Sensitivity or value of receptor

10.10.53 The sensitivity of the commercial fisheries receptors is the same as that presented for construction in **paragraphs 10.9.91 to 10.9.94** summarised as **medium** for the UK potting and dredge fisheries, and **low** for netting, pelagic and demersal fisheries.

Significance of residual effect

10.10.54 Netting, pelagic and demersal fisheries: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.55 In the specific case of black seabream, the sensitivity of the receptor is low and the magnitude is **moderate**; the effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification for this minor adverse significance is based on very limited targeting of black seabream commercially.

10.10.56 Potting and dredge fisheries: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms. The justification for this minor adverse significance is based on the highly localised effects on resources.

Increased vessel traffic within fishing grounds as a result of changes to shipping routes and maintenance vessel traffic from Rampion 2 leading to interference with fishing activity

10.10.57 The effects of the operational and maintenance phase are expected to be the same or similar to the effects from construction (see **paragraphs 10.9.102 to 10.9.108**). The significance of effect is therefore **minor adverse** for all fisheries, which is **Not Significant** in EIA terms.

Physical presence of Rampion 2 array area infrastructure leading to gear snagging

Overview

10.10.58 The array cables and interconnector cables and associated cable protection, together with any structures on the seabed represent potential snagging points for fishing gear and could lead to damage to, or loss of, fishing gear. The safety aspects including potential loss of life as a result of snagging risk are assessed within **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13).

Magnitude of impact

10.10.59 In the instance that snagging does occur, RED will work to the protocols laid out within the guidance produced by the FLOWW group and ‘'Recommendations for Fisheries Liaison: Best Practice'' guidance for offshore renewable developers , in particular section 9: Dealing with claims for loss or damage of gear (FLOWW, 2014; BERR, 2008).

10.10.60 Snagging poses a risk to fishing equipment and in extreme cases may potentially lead to capsize of vessel and crew fatalities, as well as damage to subsea infrastructure. Three phases of interaction are possible: initial impact of gear and subsea infrastructure; pullover of gear across subsea infrastructure; and snagging or hooking of gear on the subsea infrastructure. The snagging or hooking of fishing gear with infrastructure/cables on the seabed is the most hazardous to the vessel and crew due to the possibility of capsizing.

10.10.61 It is considered likely that fishermen will operate appropriately (i.e. avoiding the indicated infrastructure and cable protection at the defined location) given adequate notification of the locations of any snagging hazards; and are highly likely to avoid the infrastructure and cable protection within the Rampion 2 array area.

10.10.62 The impact is predicted to be of regional spatial extent, long term duration, continuous and with low reversibility. It is predicted that the impact will affect the receptor directly. Based on the measures that will be implemented as part of the Proposed Development and the commitment to follow standard protocols should snagging occur, the magnitude is considered to be **negligible** for fleets deploying pelagic gear and **minor** for all other fishing fleets.

Sensitivity or value of receptor

10.10.63 Due to the nature and operation of mobile trawling gear (i.e. it is actively towed and demersal trawl and dredge gear directly penetrates the seabed with near continuous contact) there is increased vulnerability to this impact and the sensitivity is therefore considered to be **medium** for demersal otter trawl, beam trawl and dredge fisheries.

10.10.64 Pelagic trawl gear is designed to catch fish in the water column and does not normally come into contact with the seabed, sensitivity is considered to be **low**.

10.10.65 UK potters and netters show a low vulnerability as the gear is placed, not towed and is less likely to penetrate the seabed. The sensitivity of UK potters and netters is considered to be **low**.

Significance of residual effect

10.10.66 The Rampion 2 embedded environmental measures (as shown in **Table 10-10**) include adherence to FLOWW guidance (C-90), a commitment to cable burial as the preferred option for cable protection (C-45), appropriate marking and charting of infrastructure (C-62)) and reporting, and where possible recovery of dropped objects (C-276 See **Table 10-12**). Taking account of these measures, the residual effect on each fishery is set out immediately below, noting that that effect in all cases will be direct and temporary.

10.10.67 **Potting fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.68 **Netting fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.69 **Dredge fishery**: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is **minor adverse**, which is **Not Significant** in EIA terms.

10.10.70 **Pelagic trawl fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **negligible**. The effect is of **negligible** significance, which is **Not Significant** in EIA terms.

10.10.71 **Beam trawl fishery**: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is **minor adverse**, which is **Not Significant** in EIA terms.

10.10.72 **Demersal otter trawl fishery**: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is **minor adverse**, which is **Not Significant** in EIA terms.

Physical presence of the export cable and associated infrastructure leading to gear snagging

Magnitude of impact

10.10.73 The impact is predicted to be of regional spatial extent, long term duration, continuous and with low reversibility. It is predicted that the impact will affect the receptor directly. Based on the measures that will be implemented as part of the Proposed Development and the commitment to follow standard protocols should snagging occur, the magnitude is considered to be **negligible** for fleets deploying pelagic gear and **minor** for all other fishing fleets.

Sensitivity or value of receptor

10.10.74 Due to the nature and operation of mobile demersal trawling and dredging gear (i.e. it is actively towed and directly penetrates with near continuous contact with the seabed) there is higher vulnerability to this impact and the sensitivity is therefore considered to be **medium**.

10.10.75 Fleets deploying pelagic gear have a low vulnerability, as the gear does not normally touch the seabed, as fishing takes place in the water column. The sensitivity of pelagic fleets is considered to be **low**.

10.10.76 UK potters and netters show a low vulnerability as the gear is placed, not towed and is less likely to penetrate the seabed. The sensitivity of UK potters and netters is considered to be **low**.

Significance of residual effect

10.10.77 The Rampion 2 embedded environmental measures (as shown in **Table 10-10**) include adherence to FLOWW guidance (C-90) and a commitment to cable burial as the preferred option for cable protection (C-45, see **Table 10-12**). Taking account of these measures, the residual effect on each fishery is set out immediately below, noting that that effect in all cases will be direct and temporary.

10.10.78 **Potting fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.79 **Netting fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **minor**. The effect is of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.80 **Dredge fishery**: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is **minor adverse**, which is **Not Significant** in EIA terms.

10.10.81 **Pelagic trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is **negligible**. The effect is of **negligible** significance, which is **Not Significant** in EIA terms.

10.10.82 **Beam trawl fishery:** overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is **minor adverse**, which is **Not Significant** in EIA terms.

10.10.83 **Demersal otter trawl fishery**: overall, it is predicted that the sensitivity of the receptor is medium and the magnitude is **minor**. The effect is **minor adverse**, which is **Not Significant** in EIA terms.

Additional steaming to alternative fishing grounds for vessels that would otherwise be fishing within the Rampion 2 area

Overview

10.10.84 A detailed Navigational Risk Assessment has been undertaken within **Chapter 13: Shipping and navigation, Volume 2** of the ES (Document Reference: 6.2.13),

which includes full consideration of commercial fishing vessels while transiting (e.g. from a collision and allision perspective). This assessment focuses on the potential impact of longer steaming distances to alternative fishing grounds during operation and maintenance. It is noted that as part of project design refinement since the PEIR stage, the extent of the array areas has been substantially reduced in response to stakeholder concerns, and that surface structure exclusion zones of over 1nm width have been established between Rampion 1 and Rampion 2 to ensure safe navigation.

Magnitude of impact

10.10.85 The impact is predicted to be of regional spatial extent, of relevance to international fishing fleets, and of long -term duration for the lifetime of Rampion 2. It is predicted that the impact will affect the receptor directly.

10.10.86 During the operation and maintenance phase, fishing will be possible across the Rampion 2 area, with the exception of in the footprint of installed infrastructure and in safety zones around infrastructure undergoing major maintenance and advisory safety distances around vessels undertaking major maintenance activities. Such activities will be communicated through Notice to Mariners and Kingfisher Bulletins with ample warning provided.

10.10.87 It is understood that the individual decisions made by the skippers of fishing vessels with their own perception of risk will determine the likelihood of whether their fishing will resume within the Rampion 2 area. As such, it is acknowledged that whilst additional steaming to alternative grounds will not be necessary, skippers may choose to steam to grounds outside of the Rampion 2 area.

10.10.88 The magnitude is considered to be **minor** for all fishing fleets.

Sensitivity or value of receptor

10.10.89 The sensitivity of commercial fishing fleets to this impact is expected to be the same or similar to that for construction (see **paragraph 10.9.112 to 10.9.117**) and is **medium** for UK fleets and **low** for EU and pelagic fleets.

Significance of residual effect

10.10.90 UK commercial fishing fleets: overall, it is predicted that the sensitivity of the receptor is considered to be medium and the magnitude is deemed to be minor. The effect will, therefore, be of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.10.91 EU and pelagic commercial fishing fleets: overall, it is predicted that the sensitivity of the receptor is considered to be low and the magnitude is deemed to be minor. The effect will, therefore, of **minor adverse** significance, which is **Not Significant** in EIA terms.

10.11 Assessment of effects: Decommissioning phase

Introduction

10.11.1 The following impacts of the offshore decommissioning of Rampion 2 have been assessed on commercial fisheries:

- Rampion 2 array area decommissioning activities leading to reduction in access to, or exclusion from, potential and/or established fishing grounds;
- Rampion 2 offshore cable corridor decommissioning activities leading to reduction in access to, or exclusion from established fishing grounds;
- Displacement from Rampion 2 array area leading to gear conflict and increased fishing pressure on adjacent grounds;
- Displacement from the Rampion 2 offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds;
- Physical presence of any infrastructure left in situ leading to gear snagging;
- Decommissioning activities leading to displacement or disruption of commercially important fish and shellfish resources;
- Increased vessel traffic within fishing grounds as a result of changes to shipping routes and transiting decommissioning vessel traffic from Rampion 2 array area and Rampion 2 offshore cable corridor leading to interference with fishing activity; and
- Additional steaming to alternative fishing grounds for vessels that would otherwise be fishing within the Rampion 2 area.

10.11.2 The environmental impacts arising from the decommissioning of Rampion 2 are listed in **Table 10-9** along with the maximum design scenario against which each decommissioning phase impact has been assessed.

Rampion 2 array area decommissioning activities leading to reduction in access to, or exclusion from, potential and/or established fishing grounds

Overview

10.11.3 The effects of decommissioning activities are expected to be the same or similar to the effects from construction (see **paragraphs 10.9.17 to 10.9.25**). The significance of effect is therefore **minor adverse** for all fleets, with the exception of the pelagic trawl fleet, where the significance of the effect is **negligible**, which is **Not Significant** in EIA terms.

Rampion 2 offshore cable corridor decommissioning activities leading to reduction in access to, or exclusion from established fishing grounds

Overview

10.11.4 The effects of decommissioning activities are expected to be the same or similar to the effects from construction (see **paragraphs 10.9.34 to 10.9.46**).

10.11.5 The significance of effect is therefore **minor adverse** for all fleets, with the exception of the pelagic trawl fleet, where the significance of the effect is **negligible**, which is **Not Significant** in EIA terms.

10.11.6 Displacement from Rampion 2 array area leading to gear conflict and increased fishing pressure on adjacent grounds

10.11.7 The effects of decommissioning activities are expected to be the same or similar to the effects from construction (see **paragraphs 10.9.61 to 10.9.66**).

10.11.8 The significance of effect is therefore **minor adverse** for all fleets, with the exception of the pelagic trawl fleet, where the significance of the effect is **negligible**, which is **Not Significant** in EIA terms.

10.11.9 Displacement from the Rampion 2 offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds

10.11.10 The effects of decommissioning activities are expected to be the same or similar to the effects from construction (see **paragraphs 10.9.80 to 10.9.85**). The significance of effect is therefore **minor adverse** for all fleets, with the exception of the pelagic trawl fleet, where the significance of the effect is **negligible**, which is **Not Significant** in EIA terms.

Physical presence of any infrastructure left in situ leading to gear snagging

10.11.11 The effects of decommissioning activities are expected to be the same or similar to the effects from operation phase for any infrastructure that is left in situ (see **paragraph 10.10.67** onwards). The significance of effect is **negligible** for the pelagic trawl fishery, and **minor adverse** for all other fisheries, which is also **Not Significant** in EIA terms.

Decommissioning activities leading to displacement or disruption of commercially important fish and shellfish resources

10.11.12 The effects of decommissioning activities are expected to be the same or similar to the effects from construction (noting that subsea noise emissions are likely to be substantially less than those arising from construction) (see **paragraphs 10.9.94 and 10.9.95**). The significance of effect is therefore **minor adverse** for all fisheries, which is **Not Significant** in EIA terms.

Increased vessel traffic within fishing grounds as a result of changes to shipping routes and transiting decommissioning vessel traffic from Rampion 2 array area and Rampion 2 offshore cable corridor leading to interference with fishing activity

10.11.13 The effects of decommissioning activities are expected to be the same or similar to the effects from construction (see **paragraphs 10.9.102 to 10.9.108**). The significance of effect is therefore **minor adverse** for all fisheries, which is **Not Significant** in EIA terms.

Additional steaming to alternative fishing grounds for vessels that would otherwise be fishing within the Rampion 2 area

10.11.14 The effects of the decommissioning phase are expected to be the same or similar to the effects from construction. The significance of effect is therefore **minor adverse** for all fishing fleets (see **paragraph 10.9.117** onwards), which is **Not Significant** in EIA terms.

10.12 Assessment of cumulative effects

Approach

10.12.1 A cumulative effects assessment (CEA) examines the combined impacts of Rampion 2 in combination with other developments on the same single receptor or resource and the contribution of Rampion 2 to those impacts. The overall method followed in identifying and assessing potential cumulative effects in relation to the offshore environment is set out in **Chapter 5: Approach to the EIA** of the ES (Document Reference: 6.2.5).

10.12.2 The offshore screening approach is based on the Planning Inspectorate's Advice Note Nine (Planning Inspectorate, 2018) and Advice Note Seventeen (Planning Inspectorate, 2019), with relevant components of the RenewableUK (RenewableUK, 2013) accepted guidance, which includes aspects specific to the marine elements of an offshore wind farm, addressing the need to consider commercial fisheries.

Cumulative effects assessment

10.12.3 For commercial fisheries, a Zone of Influence (ZOI) covering the eastern English Channel (ICES Division 7d) has been applied for the CEA to ensure direct and indirect cumulative effects can be appropriately identified and assessed, as described in **paragraph 10.4.5**. This ZOI provides appropriate coverage of relevant fishing grounds. The commercial fisheries ZOI is shown in **Figure 10.12, Volume 3** of the ES (Document Reference: 6.3.10).

Table 10-18 Developments considered as part of the commercial fisheries CEA

ID (Figure 5.4.1)	Development type	Development name	Status	Confidence in assessment	Tier[2]	Distance to Rampion 2 (km)
W10	Offshore wind farm	Dieppe – Le Treport (France)	Under construction (2019 to 2023)	Medium – Third-party project details published in the public domain but not confirmed as being 'accurate'.	1	<50
W20	Offshore wind farm	Fécamp (France)	Under construction (2020 to 2023)	High – Third-party project details published in the public domain and confirmed as being 'accurate' by the developer.	1	<50
T1	Tidal energy project	Perpetuus Tidal Energy Centre (PTEC)	Proposed (Offshore plans approved 2016, plan to be operational 2025)	Medium – Third-party project details published in the public domain but not confirmed as being 'accurate'	1	43.3
C1	Subsea cable	AQUIND (UK to France)	Currently being redetermined by the Secretary of State	High – Third-party project details published in the public domain and	1	0

[2] **Chapter 5: Approach to the EIA, Volume 2** of the ES (Document Reference: 6.2.5) sets out the full definitions of the tiers. Tier 1: high level of certainty or information availability (including under construction or where a planning application has been approved or is awaiting decision). Tier 2: medium level of certainty or information (such as developments on PINS Programme of Projects where a Scoping Report has been submitted). Tier 3: low level of certainty or information available (no planning applications submitted or identified for potential future development only).

ID (Figure 5.4.1)	Development type	Development name	Status	Confidence in assessment	Tier[2]	Distance to Rampion 2 (km)
				confirmed as being 'accurate' by the developer.		
C3	Subsea cable	CrossChannel Fibre (UK to France)	Under construction (completion date October 2021)	Low - Environmental Statement not available.	1	Unknown
N/A	Designated site	Selsey Bill and the Hounds MCZ	Existing – confirmation of fisheries management measures is awaited	Low – management measures not yet defined.	2	<50
N/A	Designated site	Beachy Head East MCZ	Existing – confirmation of fisheries management measures is awaited	Low – management measures not yet defined.	2	<50
N/A	Designated site	Offshore Overfalls MCZ	Existing – confirmation of fisheries management measures is awaited	Low – management measures not yet defined.	2	<50

10.12.4 Certain impacts assessed for Rampion 2 alone are not considered in the cumulative assessment due to:

- the highly localised nature of the impacts (i.e. they occur entirely within Rampion 2 only);
- management measures in place for Rampion 2 (**Table 10-12)** will also be in place on other projects reducing their risk of occurring; and/or
- where the potential significance of the impact from Rampion 2 alone has been assessed as negligible.

10.12.5 The impacts excluded from the CEA for the above reasons are:

- increased risk of gear snagging;
- displacement or disruption of commercially important fish and shellfish resources;
- increased vessel traffic within fishing grounds as a result of changes to shipping routes and project related vessel traffic leading to interference with fishing activity; and
- additional steaming to alternative fishing grounds for vessels that would otherwise be fishing within the Rampion 2 area.

10.12.6 Therefore, the impacts that are considered in the CEA during construction and operation and maintenance are as follows:

- reduction in access to, or exclusion from established fishing grounds; and
- displacement leading to gear conflict and increased fishing pressure on established fishing grounds.

10.12.7 The following table sets out the basis for the CEA relevant to commercial fisheries.

Table 10-19 Cumulative Project Design Envelope for commercial fisheries

Project phase and activity/impact	Scenario	Justification
Cumulative reduction in access to, or exclusion from established fishing grounds	Construction phase: Tier 1: All Tier 1 projects/activities Tier 2: Implementation of fisheries management measures in MCZs Operation and maintenance phase:	Outcome of the CEA will be greatest when the greatest number of other developments are considered.

Project phase and activity/impact	Scenario	Justification
	As per Construction phase	
Cumulative displacement leading to gear conflict and increased fishing pressure on established fishing grounds	Construction phase: Tier 1: All Tier 1 projects/activities Tier 2: Implementation of fisheries management measures in MCZs Operation and maintenance phase: As per Construction phase	Outcome of the CEA will be greatest when the greatest number of other developments are considered.

Reduction in access to, or exclusion from established fishing grounds during construction

10.12.8 There is potential for cumulative reduction in access to or exclusion from established fishing grounds as a result of construction activities associated with Rampion 2 and other projects/activities.

Tier 1

10.12.9 The projects identified under Tier 1 include the Le Treport and Fécamp offshore wind farms, located in the English Channel, over 10m from the French coastline. They will respectively comprise of 62 and 83 wind turbines and are both expected to be operational by 2023, ahead of commencement of Rampion 2 construction. Tier 1 projects also include the Perpetuus Tidal Energy project located off the southern tip of the Isle of Wight and expected to be operational by 2025, and two subsea cable projects, the status of which are less well understood, with the planned AQUIND currently being redetermined by the Secretary of State and the location of the proposed CrossChannel Fibre cable not being known.

10.12.10 It is not anticipated that UK potting and netting fleets operating in the Rampion 2 commercial fisheries study area will target grounds in the French offshore wind farm sites, nor routinely target grounds in the Perpetuus Tidal Energy project site. Whilst there is potential for these fleets to target grounds within the proposed subsea cable routes, data indicates that they operate over an area more extensive than the footprint of solely Rampion 2 and the proposed subsea cables.

10.12.11 The UK potting and netting fleets demonstrate some vulnerability to cumulative impacts of exclusion and the sensitivity of receptors is considered to be consistent with that assessed during construction and is **medium**.

10.12.12 It is not anticipated that the dredge, beam trawl, demersal trawl and pelagic trawl fleets operating in the Rampion 2 commercial fisheries study area will target grounds in the Perpetuus Tidal Energy project site. It is possible that these fleets will target grounds in and around the other Tier 1 projects, though it is noted that these projects are expected to be operational at the point of Rampion 2 construction and that fishing will have resumed within them to some degree limiting the scale of cumulative impact. These mobile gear fleets operate over relatively wide areas and are not restricted to the footprint of Rampion 2 or the Tier 1 projects. And the sensitivity of the receptors is considered to be consistent with that assessed during construction and is **low** for dredge, beam trawl, demersal trawl and pelagic trawl fleets.

10.12.13 In the case of potential effects arising from the presence of Tier 1 projects, it is considered that the combined magnitude does not raise the cumulative impact of Rampion 2 with other developments above that already assessed for Rampion 2 alone, i.e. the residual effect will remain as presented in **paragraphs 10.9.17 to 10.9.25**, **and 10.9.38 to 10.9.46** and **Not Significant** in EIA terms.

Tier 2

10.12.14 At present, it is not known whether additional management measures for any gear interaction within the MCZs identified in **Table 10-19** will be implemented, or when such measures may be implemented. Given that the MCZs cover a range of habitat and species features, and based on a maximum design scenario for commercial fisheries; it is assumed that all mobile trawling gear with seabed contact will be subject to some form of restrictions in relation to MCZ sites protected for habitat features.

10.12.15 The Sussex IFCA's recently-introduced Nearshore Trawling Byelaw 2019 bans trawling along a large area of the Sussex inshore coastline between Selsey and Shoreham-by-Sea, with the aim of encouraging the regeneration of marine habitats - particularly kelp forests – that act as nursery and feeding grounds for fish species. The byelaw encompasses Selsey Bill & the Hounds MCZ. This Byelaw updates a previous trawling exclusion byelaw, which incorporated a seasonal trawling ban in inshore IFCA waters.

10.12.16 Assuming potential restrictions on towed gear fishing implemented in MCZs, and known restrictions associated with the 2019 byelaw, where these overlap with the grounds of mobile gear fleets, this may result in cumulative reduction in access to fishing grounds.

10.12.17 Given the location of Beachy Head East MCZ and Selsey Bill and the Hounds MCZ immediately adjacent to the coastline, any localised restrictions implemented in these sites are unlikely to impact the mobile gear fisheries operating in the study area. In the case of Offshore Overfalls MCZ, VMS data indicate relatively limited mobile gear activity in this site relative to more prominent fishing grounds to the south and east.

10.12.18 The impact assessment undertaken to inform the introduction of the Nearshore Trawling Byelaw concluded that pair trawl activity will be most impacted by the introduction of the regulation, with up to nine fishing vessels being displaced. The impact assessment observed that displacement of trawling activity will open the

area up for greater access by other fisheries, such as the net fishery and charter angling (Sussex IFCA, 2020b).

10.12.19 The sensitivity of receptors is considered to be consistent with that assessed during construction and is **medium** for the UK potting and netting fisheries, and **low** for all other fisheries.

10.12.20 In the case of potential effects arising from the implementation of fisheries management measures in MCZs, it is considered that the combined magnitude does not raise the cumulative impact of Rampion 2 with other developments above that already assessed for Rampion 2 alone, i.e. the residual effect will remain as presented in **paragraphs 10.9.17** to **10.9.25**, and **10.9.38** to **10.9.46** and **Not Significant** in EIA terms.

Displacement leading to gear conflict and increased fishing pressure on established fishing grounds during construction

10.12.21 The effect of displacement leading to gear conflict and increased fishing pressure is directly correlated to the previous impact of reduced access to fishing grounds (i.e. if there is no reduction in access, then there will be no displacement).

10.12.22 The sensitivity of receptors is considered to be consistent with that assessed during construction and is **medium** for the UK potting and netting fisheries, and **low** for all other fisheries.

10.12.23 It is considered that the combined magnitude does not raise the cumulative impact of Rampion 2 with other developments above that already assessed for Rampion 2 alone, i.e. the residual effect will remain as presented in **paragraphs 10.9.61 to and 10.9.80 to 10.9.85** and **Not Significant** in EIA terms.

Reduction in access to, or exclusion from established fishing grounds during operation and maintenance

10.12.24 The cumulative effect during operation and maintenance on reduction in access to or exclusion from fishing grounds is expected to be lower than with that presented during construction. As such a **minor** magnitude is assessed for all fleets since projects/activities are expected to have already been established and adjusted to.

10.12.25 The sensitivity of receptors is considered to be consistent with that assessed during construction and is **medium** for the UK potting and netting fisheries, and **low** for all other fisheries.

10.12.26 It is considered that the combined magnitude does not raise the cumulative impact of Rampion 2 with other developments above that already assessed for Rampion 2 alone, i.e. the residual effect will remain as presented in **paragraphs 10.10.19 to 10.10.24 and 10.10.33 to 10.10.38** and **Not Significant** in EIA terms.

Displacement leading to gear conflict and increased fishing pressure on established fishing grounds during operation and maintenance

10.12.27 The effect of displacement leading to gear conflict and increased fishing pressure is directly correlated to the previous impact of reduced access to fishing grounds (i.e. if there is no reduction in access, then there will be no displacement).

10.12.28 The sensitivity of receptors is considered to be consistent with that assessed during construction and is **medium** for the UK potting and netting fisheries, and **low** for all other fisheries.

10.12.29 It is considered that the combined magnitude does not raise the cumulative impact of Rampion 2 with other developments above that already assessed for Rampion 2 alone, i.e. the residual effect will remain as presented in **paragraphs 10.10.43 to 10.10.48** and **Not Significant** in EIA terms.

10.13 Transboundary effects

10.13.1 Transboundary effects arise when impacts from a development within one European Economic Area (EEA) state affects the environment of another EEA state(s). A screening of transboundary effects has been carried out and is presented in Appendix B of the Scoping Report (RED, 2020). The screening exercise identified the following potential transboundary effects on commercial fisheries:

- effects on commercial fishing fleets as a result of impacts from Rampion 2 on commercial fish stocks in the waters of other EEA States; and
- effects on commercial fishing fleets from all EEA countries as a result of constraints on foreign commercial fishing activities operating in Rampion 2, including demersal trawling, beam trawling and pelagic trawling. These effects may include reduction in access to fishing grounds and potential displacement of fishing effort from Rampion 2 to alternative fishing grounds in other EEA States, which will have direct implications to that fishing ground.

10.13.2 Effects on biological resources could occur over a range of 10s of kilometres from Rampion 2 and could therefore interact with the following EEA state: France. Based on the minor to negligible significance of disruption to commercial species during all phases of Rampion 2, it is expected that the impact on stocks in the French EEZ is negligible. Therefore, the potential transboundary impact of effects on commercial fish stocks in the waters of other EEA States on commercial fisheries is concluded to be of negligible significance and is therefore considered to be **Not Significant** in EIA terms.

10.13.3 Effects on commercial fishing fleets could occur over a range of 100s of kilometres from Rampion 2 and could therefore interact with the following EEA states: Netherlands, Germany, Belgium, and France. Effects on these foreign commercial fishing fleets from EEA states, in terms of reduction in access to grounds within Rampion 2 and displacement into alternative grounds including other EEZs have been considered in the assessment presented in this chapter and were found to be minor for all non-UK EEA states. Therefore, the potential transboundary impact of constraints on foreign commercial fishing activities is concluded to be of minor significance and is therefore considered to be **Not Significant** in EIA terms.

10.14 Inter-related effects

10.14.1 The inter-related effects assessment considers likely significant effects from multiple impacts and activities from the construction, operation and maintenance

and decommissioning phases of Rampion 2 on the same receptor, or group of receptors.

10.14.2 Inter-related effects could potentially arise in one of two ways. The first type of inter-related effect is a Proposed Development lifetime effect, where multiple phases of the Proposed Development interact to create a potentially more significant effect on a receptor than in one phase alone. The phases for Rampion 2 are construction, operation and maintenance, and decommissioning. All Proposed Development lifetime effects are assessed in **Chapter 30: Inter-related effects, Volume 2** of the ES (Document Reference: 6.2.30).

10.14.3 The second type of inter-related effect is receptor-led effects. Receptor-led effects are where effects from different environmental aspects combine spatially and temporally on a receptor. These effects may be short-term, temporary, transient, or longer-term.

10.14.4 Receptor-led effects have been considered, where relevant, in this chapter for potential interactions between commercial fisheries impacts, namely the inter-related effect from the combination of the reduction in access to fishing grounds and the subsequent increased pressure on adjacent grounds.

10.14.5 Full results of the receptor-led effects assessment can be found in **Chapter 30: Inter-related effects, Volume 2** of the ES (Document Reference: 6.2.30).

10.15 Summary of residual effects

10.15.1 **Table 10-20** presents a summary of the assessment of significant impacts, any relevant embedded environmental measures and residual effects on commercial fisheries receptors.

Table 10-20 Summary of assessment of residual effects

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
Construction				
Rampion 2 array area construction activities and physical presence of constructed wind farm infrastructure leading to reduction in access to, or exclusion from established fishing grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194 Cc~~c~~-276	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Moderate	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Rampion 2 offshore export cable construction activities and physical presence of constructed wind farm infrastructure leading to reduction in access to, or exclusion from established fishing grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Negligible	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Displacement from Rampion 2 array area leading to gear conflict and increased fishing pressure on adjacent grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Displacement from Rampion 2 offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Rampion 2 array area and offshore cable corridor construction activities leading to disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity	Potting fleet: Minor	Potting fleet: Medium	See measures set out in **Chapter 8**: **Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8)	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-56 C-90 – C-93 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Rampion 2 area	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-56 C-90 – C-93 C-194 C-304	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Medium		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Medium		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Operation and maintenance				
Physical presence of Rampion 2 array area infrastructure leading to reduction in access to, or exclusion from established fishing grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194 C-276	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Moderate	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Physical presence of offshore export cable and infrastructure within the Rampion 2 offshore cable corridor leading to reduction in access to, or exclusion from established fishing grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Displacement from Rampion 2 array area and offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant))
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Rampion 2 operation and maintenance activities leading to displacement or disruption of commercially important fish and shellfish resources	Potting fleet: Minor	Potting fleet: Medium	See measures set out in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8).	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Increased vessel traffic within fishing grounds as a result of changes to shipping routes and maintenance vessel traffic from Rampion 2 leading to interference with fishing activity	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-56 C-90 – C-93 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Physical presence of Rampion 2 array area infrastructure leading to gear snagging	Potting fleet: Minor	Potting fleet: Low	C-45 C-46 C-47 C-56 C-90 – C-93 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Medium		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Medium		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Medium		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Physical presence of the export cable and associated infrastructure leading to gear snagging	Potting fleet: Minor	Potting fleet: Low	C-45 C-46 C-47 C-56 C-90 – C-93 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Medium		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Medium		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Medium		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Rampion 2 area	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-56 C-90 – C-93 C-194 C-304	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Medium		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Medium		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Decommissioning				
Rampion 2 array area decommissioning activities leading to reduction in access to, or exclusion from, potential and/or established fishing grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194 C-276 C-288 C-300	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Belgian beam trawl fleet: Moderate	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Rampion 2 offshore cable corridor decommissioning activities leading to reduction in access to, or exclusion from established fishing grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-194 C-288 C-300	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Belgian beam trawl fleet: Negligible	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Negligible (Not Significant)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Displacement from Rampion 2 array area leading to gear conflict and increased fishing pressure on adjacent grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-288 C-300	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Displacement from the Rampion 2 offshore cable corridor leading to gear conflict and increased fishing pressure on adjacent grounds	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-90 C-288 C-300	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Physical presence of any infrastructure left in situ leading to gear snagging	Potting fleet: Minor	Potting fleet: Low	C-45 C-46 C-47 C-56 C-90 – C-93 C-194 C-288 C-300	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Medium		UK beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Medium		Belgian beam trawl fleet: Minor adverse (Not Significant)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Medium		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
Decommissioning activities leading to displacement or disruption of commercially important fish and shellfish resources	Potting fleet: Minor	Potting fleet: Medium	See measures set out in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES (Document Reference: 6.2.8)	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Minor adverse (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Increased vessel traffic within fishing grounds as a result of changes to shipping routes and transiting decommissioning vessel traffic from Rampion 2 array area and Rampion 2 offshore cable corridor leading to interference with fishing activity	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-56 C-90 – C-93 C-194	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)
Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Rampion 2 area	Potting fleet: Minor	Potting fleet: Medium	C-45 C-46 C-47 C-56 C-90 – C-93 C-194 C-288 C-300 C-304	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Medium		Netting fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Assessment of residual effect (significance)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Medium		UK beam trawl fleet: Minor adverse (Not Significant)
	Belgian beam trawl fleet: Minor	Belgian beam trawl fleet: Low		Belgian beam trawl fleet: Minor adverse (Not Significant)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Medium		Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Minor adverse (Not Significant)

10.16 Glossary of terms and abbreviations

Table 10-21 Glossary of terms and abbreviations – commercial fisheries

Term (acronym)	Definition
Array cables	Cables connecting the WTGs to each other and to the offshore substation(s).
Beam trawl	A method of bottom trawling with a net that is held open by a beam, which is generally a heavy steel tube supported by steel trawl heads at each end. Tickler chains or chain mats, attached between the beam and the ground rope of the net, are used to disturb fish and crustaceans that rise up and fall back into the attached net.
Bycatch	Catch which is retained and sold but is not the target species for the fishery.
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
DCO Application	An application for consent under the Planning Act 2008 to undertake a Nationally Significant Infrastructure Project made to the Planning Inspectorate who will consider the application and make a recommendation to the Secretary of State, who will decide on whether development consent should be granted for the Proposed Development.
Decommissioning	The period during which a development and its associated processes are removed from active operation.
Demersal	Living on or near the sea bed.
Demersal trawl	A fishing net used by towing the trawl along or close to the seabed.
Development Consent Order (DCO)	This is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects, under the Planning Act 2008.
Embedded environmental measures	Equate to 'primary environmental measures' as defined by Institute of Environmental Management and Assessment (2016). They are measures to avoid or reduce environmental effects that are directly incorporated into the design of the Proposed Development.
Environmental Impact Assessment (EIA)	The process of evaluating the likely significant environmental effects of a proposed project or development over and above the existing circumstances (or 'baseline').

Term (acronym)	Definition
Environmental Statement (ES)	The written output presenting the full findings of the Environmental Impact Assessment.
Fish stock	Any natural population of fish which an isolated and self-perpetuating group of the same species.
Fishery	A group of vessel voyages which target the same species or use the same gear.
Fishing ground	An area of water or sea bed targeted by fishing activity.
Fleet	A physical group of vessels sharing similar characteristics (e.g. nationality).
FLOWW	Fisheries Liaison with Offshore Wind and Wet Renewables group
Gear type	The method / equipment used for fishing.
ICES statistical rectangles	ICES standardise the division of sea areas to enable statistical analysis of data. Each ICES statistical rectangle is '30 min latitude by 1 degree longitude' in size (approximately 30 x 30 nautical miles). A number of rectangles are amalgamated to create ICES statistical areas.
Impact	The changes resulting from an action.
Landings	Quantitative description of amount of fish returned to port for sale, in terms of value or weight.
Likely significant effects	It is a requirement of Environmental Impact Assessment Regulations to determine the likely significant effects of the Proposed Development on the environment which should relate to the level of an effect and the type of effect.
MCEU	Marine Consents and Environment Unit
NM	Nautical Mile
Offshore export cable	Cables that transfer power from the offshore substation(s) to shore.
Offshore substation	Housing for the electrical components needed to transform power supplied by the WTGs. An export cable connects the offshore substation and the transition join bay at landfall.
Offshore Wind Farm	A group of WTGs located offshore.
Otter trawl	A net with large rectangular boards (otter boards) which are used to keep the mouth of the trawl net open. Otter boards

Term (acronym)	Definition
	are made of timber or steel and are positioned in such a way that the hydrodynamic forces, acting on them when the net is towed along the seabed, pushes them outwards and prevents the mouth of the net from closing.
Pelagic	Of or relating to the open sea.
Pelagic trawl	A net used to target fish species in the mid water column.
Preliminary Environmental Information Report (PEIR)	The written output of the Preliminary Environmental Impact Assessment undertaken for the Proposed Development. It was developed to support Statutory Consultation and presented the preliminary findings of the assessment to allow an informed view to be developed of the Proposed Development, the assessment approach that was undertaken, and the preliminary conclusions on the likely significant effects of the Proposed Development and environmental measures proposed.
Proposed Development	The development that is subject to the application for development consent, as described in **Chapter 4: The Proposed Development, Volume 2** of the ES (Document Reference: 6.2.4).
Quota	A proportion of the Total Allowable Catch for a fish stock.
Receptor	These are as defined in Regulation 5(2) of The Infrastructure Planning 'Environmental Impact Assessment' Regulations 2017 and include population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape that may be at risk from exposure to direct and indirect impacts as a result of the Proposed Development.
Scallop dredge	A method to catch scallop using steel dredges with a leading bar fitted with a set of spring loaded, downward pointing teeth. Behind this toothed bar (sword), a mat of steel rings is fitted. A heavy net cover (back) is laced to the frame, sides and after end of the mat to form a bag.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value associated to that receptor.
Significance	A measure of the importance of the environmental effect, defined by criteria specific to the environmental aspect.

Term (acronym)	Definition
Significant effects	It is a requirement of the EIA Regulations 2017 to determine the likely significant effects of the development on the environment which should relate to the level of an effect and the type of effect. Where possible significant effects should be mitigated. The significance of an effect gives an indication as to the degree of importance (based on the magnitude of the effect and the sensitivity of the receptor) that should be attached to the impact described. Whether or not an effect should be considered significant is not absolute and requires the application of professional judgement. Significant – 'noteworthy, of considerable amount or effect or importance, not insignificant or negligible' (The Concise Oxford Dictionary). Those levels and types of landscape and visual effect likely to have a major or important / noteworthy or special effect of which a decision maker should take particular note.
Stakeholder	Person or organisation with a specific interest (commercial, professional or personal) in a particular issue.
String	A series of static fishing gear (pots) joined together to form a single deployable linear line of pots.
Total Allowable Catch	Total Allowable Catches (TACs) are catch limits, expressed in tonnes or numbers, that are set for some commercial fish stocks.
Vessel Monitoring System	A system used in commercial fishing to allow environmental and fisheries regulatory organizations to monitor, minimally, the position, time at a position, and course and speed of fishing vessels.
Wind Turbine Generators (WTG)	The components of a WTG, including the tower, nacelle, and rotor.

Acronyms and Abbreviations

Term (acronym)	Definition
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
BNFS	Brighton and Newhaven Fish Sales
CEA	Cumulative Effects Assessment
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CPA	Coastal Protection Area
DCF	Data Collection Framework
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DML	Deemed Marine Licence
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
ES	Environmental Statement
ESCA	European Subsea Cables Association
ETG	Expert Technical Group
EU	European Union
EUMOFA	European Market Observatory for Fisheries and Aquaculture Products
FEPA	Food and Environment Protection Act
FIR	Fishing Industry Representative
FLCP	Fisheries Liaison and Coexistence Plan
FLO	Fisheries Liaison Officer
FLOWW	Fishing Liaison with Offshore Wind and Wet Renewables Group
GIS	Geographic Information System

Term (acronym)	Definition
ICES	International Council for the Exploration of the Sea
IFCA	Inshore Fisheries and Conservation Authority
OSS	Offshore Substations
MCEU	Marine Consents and Environment Unit
MEMR	Mitigation, Enhancement and Monitoring
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
MPA	Marine Protected Area
MPS	Marine Policy Statement
NFFO	National Federation of Fishermen's Organisations
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Projects
NtM	Notice to Mariners
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
RED	Rampion Extension Development Limited
SSC	Suspended Sediment Concentrations
TAC	Total Allowable Catch
TCA	Trade Cooperation Agreement
UK	United Kingdom
UKFEN	UK Fisheries Economic Network
VMS	Vessel Monitoring System

Units

Unit	Definition
GBP	British pound sterling
km	Kilometres
m	Metres
NM	Nautical Mile
t	Tonne

10.17 References

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