

Volume 2, Chapter 10

Commercial Fisheries



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10. Commercial fisheries

10.1 Introduction

- 10.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the preliminary results of the assessment of the likely significant effects of Rampion 2 with respect to commercial fisheries during the construction, operation and maintenance and decommissioning phases of the Proposed Development. It should be read in conjunction with the project description provided in **Chapter 4: The Proposed Development, Appendix 10.1: Commercial fisheries technical report, Volume 4**, and the relevant parts of the following chapters:
- **Chapter 8: Fish and shellfish ecology** where impacts on the ecology of fish and shellfish, including species of commercial interest, are assessed; and
 - **Chapter 13: Shipping and navigation** 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**.
- 10.1.3 This 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 Scoping Opinion received in August 2020 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 PEIR assessment**);
 - the assessment methods used for the PEIR (**Section 10.1: Methodology for PEIR assessment**);
 - the assessment of commercial fisheries effects and consideration of additional mitigation measures (**Section 10.8.2 -10.8.5: Preliminary assessment and Section 10.12: Preliminary assessment: Cumulative effects approach**);
 - consideration of transboundary effects (**Section 10.13: Transboundary effects**);

- consideration of Inter-related effects (**Section 10.14: Inter-related effects**);
- a summary of residual effects for commercial fisheries (**Section 10.15: Summary of residual effects**);
- an outline of further work to be undertaken for the Environmental Statement (ES) (**Section 10.16: Further work to be undertaken for ES**);
- a glossary is provided in **Section 10.17: Glossary of terms and abbreviations**; and
- references are provided in **Section 10.18: References**.

10.1.4 This chapter is supported by **Appendix 10.1: Commercial fisheries technical report, Volume 4**, and a number of figures presented in **Volume 3**.

10.2 Relevant legislation, policy and other information and guidance

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** of this PEIR.

Legislation and national planning policy

- 10.2.2 Planning policy on offshore renewable energy Nationally Significant Infrastructure Projects (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).
- 10.2.3 NPS EN-3 includes guidance on what matters are to be considered in the assessment. These are summarised in **Table 10-1** below.

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

Policy description	Relevance to assessment
Consultation	
<i>“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”</i>	Consultation with representatives of the fishing industry has commenced and is ongoing. Engagement from July 2020 up to the end for March 2021 is summarised in Section 10.3 .
(paragraph 2.6.127 of NPS EN-3)	

Policy description	Relevance to assessment
<p><i>“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”</i></p> <p>(paragraph 2.6.128 of NPS EN-3)</p>	<p>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 March 2021 is summarised in Section 10.3.</p>
<p><i>“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”</i></p> <p>(paragraph 2.6.129 of NPS EN-3)</p>	<p>Relevant surveys and data are detailed in Chapter 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).</p>
<p><i>“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.”</i></p> <p>(paragraph 2.6.126 of NPS EN-3)</p>	<p>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.</p>
Baseline data	
<p><i>“Robust baseline data should have been collected and studies conducted as part of the assessment”</i></p> <p>(paragraph 2.6.129 of NPS EN-3)</p>	<p>Robust baseline datasets analysed include EU and UK statistics and surveillance data, industry consultation and published reports, as described in Section 10.5.</p>
Safety zones	
<p><i>“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”</i></p> <p>(paragraph 2.6.130 of NPS EN-3)</p>	<p>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).</p>
<p><i>“Where the precise extents of potential safety zones are unknown, a realistic worst</i></p>	

Policy description	Relevance to assessment
<p><i>case scenario should be assessed. Applicants should consult the MCA"</i></p> <p>(paragraph 2.6.131 of NPS EN-3)</p>	<p>It is assumed there would be safety zones of up to 500 m around infrastructure under construction, decommissioning and major maintenance works.</p>
Fish stocks	
<p><i>"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"</i></p> <p>(paragraph 2.6.131 of NPS EN-3)</p>	<p>The Rampion 2 assessment has considered the effects on commercial fish stocks (see Chapter 8).</p>

10.2.4 NPS EN-3 also highlights several factors relating to the determination of an application and in relation to mitigation. These are summarised in **Table 10-2**.

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

Policy description	Relevance to assessment
Commercial fisheries	
<p><i>"The Secretary of State should be satisfied that the site selection process has been undertaken in a way that reasonably minimises adverse effects on fish stocks, including during peak spawning periods and the activity of fishing itself"</i></p> <p>(paragraph 2.6.132 of NPS EN-3)</p>	<p>The effects arising from the Proposed Development have been and will be 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.</p>
<p><i>"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</i></p>	<p>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.</p>

Policy description	Relevance to assessment
<p><i>sustainable fisheries or fishing activity at recognised important fishing grounds, this should be attributed correspondingly significant weight”</i></p> <p>(paragraph 2.6.132 of NPS EN-3)</p> <p><i>“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”</i></p> <p>(paragraph 2.6.133 of NPS EN-3)</p>	
<p>Mitigation for Commercial Fisheries</p> <p><i>“Any mitigation proposals should result from the applicant having detailed consultation with relevant representatives of the fishing industry”</i></p> <p>(paragraph 2.6.134 of NPS EN-3)</p> <p><i>“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”</i></p> <p>(paragraph 2.6.135 of NPS EN-3)</p>	<p>Consultation with UK and overseas stakeholders from the fishing community is on-going (see Section 10.3).</p> <p>A range of commitments are presented within Section 10.7, including development of an Outline Fisheries Liaison and Co-existence Plan (FLCP).</p>

Other relevant policies

- 10.2.5 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 (Defra, 2014).

- 10.2.6 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 10-3**.

Table 10-3 Summary of 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 are committed to supporting a sustainable fishing industry. RED will develop an Outline Fisheries Liaison and Co-existence Plan 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

- 10.2.7 In addition to the planning policy guidance listed above, the following guidance documents have been used to inform the assessment of potential impacts on commercial fisheries:
- 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) Recommendations for Fisheries Liaison: Best Practice guidance for offshore renewable developers (FLOWW, 2014 and BERR, 2008);
 - FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Disruption Settlements and Community Funds (FLOWW, 2015);
 - Options and opportunities for marine fisheries mitigation associated with wind farms (Blyth-Skyrme, 2010a);

- Developing guidance on fisheries Cumulative Impact Assessment for wind farm developers (Blyth-Skyrme, 2010b);
- 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 Food and Environment Protection Act (FEPA) and Coast Protection Act (CPA) requirements (Centre for Environment, Fisheries and Aquaculture Science [CEFAS], Marine Consents and Environment Unit [MCEU], Department for Environment, Food and Rural Affairs [DEFRA] and Department of Trade and Industry [DTI], 2004).

10.3 Consultation and engagement

Overview

- 10.3.1 This section describes the outcome of, and response to, the Scoping Opinion in relation to commercial fisheries assessment and also provides details of the ongoing informal consultation that has been undertaken with stakeholders and individuals. A summary of engagement undertaken can be found in **Chapter 1: Introduction**.
- 10.3.2 Given the restrictions which have been in place due to COVID-19 during this period, all informal engagement has taken the form of email exchanges and video conference calls.

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 (PINS, 2020) was received on 11 August 2020. The Scoping Report set out the proposed commercial fisheries assessment methodologies, outline of the baseline data collected to date and proposed, and the scope of the assessment. **Table 10-4** 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 PEIR. A full list of the PINS Scoping Opinion comments and responses is provided in **Appendix 5.1: Response to the Scoping Opinion**. Regard has also been given to other stakeholder comments that were received in relation to the Scoping Report.

Table 10-4 PINS Scoping Opinion responses – commercial fisheries

PINS ID number	Scoping Opinion comment	How this is addressed in this PEIR
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 .

Informal engagement

Overview

- 10.3.4 Informal engagement has been ongoing with a number of stakeholders in relation to commercial fisheries. A summary of the informal engagement undertaken between the completion of the Scoping Report (RED, 2020) and up to and including March 2021 is outlined in this section. Informal engagement is ongoing at the time of PEIR preparation, and will be updated from PEIR for DCO Application.

National Federation of Fishermen's Organisations (NFFO)

- 10.3.5 Engagement with the NFFO has been ongoing since December 2020 which commenced with a conference call on 9 December 2020.
- 10.3.6 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 impact assessment on the basis that Rampion 1 was understood to have impacted steaming times.
- 10.3.7 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, identified.
- 10.3.8 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.

- 10.3.9 The NFFO identified additional Selsey-based fishermen that they advised should be consulted with to inform the impact assessment; engagement with these fishermen will be pursued in advance of DCO Application.
- 10.3.10 The importance of considering potential cumulative effects was also highlighted by the NFFO (see **Section 10.12**).

Sussex Inshore Fisheries and Conservation Authority (IFCA)

- 10.3.11 Engagement with the IFCA has been ongoing since 2019. Engagement specific to impact assessment commenced with a conference call on 10 December 2020.
- 10.3.12 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.
- 10.3.13 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**.
- 10.3.14 Existing and planned fisheries management measures within Marine Conservation Zones (MCZs) were discussed with the IFCA.
- 10.3.15 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.
- 10.3.16 The IFCA identified additional stakeholders that they advised should be consulted with to inform the impact assessment; engagement with these fishermen will be pursued in advance of DCO Application.

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

- 10.3.17 Engagement has been ongoing since December 2020 which commenced with a conference call on 8 December 2020.
- 10.3.18 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.
- 10.3.19 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.

- 10.3.20 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.
- 10.3.21 The stakeholder identified additional stakeholders that they advised should be consulted with to inform the impact assessment; engagement with these fishermen will be pursued in advance of DCO Application.
- 10.3.22 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)

- 10.3.23 Engagement has been ongoing since December 2020 which commenced with a conference call on 9 December 2020.
- 10.3.24 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.
- 10.3.25 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 out with the Rampion 2 PEIR Assessment Boundary. They commented that French vessels would typically not fish within a wind farm.
- 10.3.26 The stakeholder identified additional stakeholders that they advised should be consulted with to inform the impact assessment; engagement with these fishermen will be pursued in advance of DCO Application.

Fisheries Working Group Meetings – February 2021

- 10.3.27 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.
- 10.3.28 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.

Informal Consultation – January / February 2021

- 10.3.29 RED carried out an Informal Consultation exercise for a period of four weeks from 14 January 2021 to 11 February 2021. This Informal 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.
- 10.3.30 The key themes emerging from Informal 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.

10.4 Scope of the assessment

Overview

- 10.4.1 This section sets out the scope of the PEIR assessment for commercial fisheries. This scope has been developed as the Rampion 2 design has evolved and responds to feedback received to date as set out in **Section 10.3**. As outlined in the PINS Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements (Version 7, the PINS, 2020), information presented in the PEIR is preliminary and the scope will be reviewed in response to any Rampion 2 design changes or as a result of ongoing consultation.

Spatial scope and study area

- 10.4.2 The Rampion 2 PEIR Assessment Boundary 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 PEIR Assessment Boundary for the proposed 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** noting that the PEIR Assessment Boundary occupies only a portion of this ICES rectangle, equating to 14% of the surface area. 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, operational and decommissioning periods as described in **Chapter 4: The Proposed Development**.

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 10-5**. These receptors have been identified based on desktop analysis of baseline data and stakeholder engagement to date has validated this list.

Table 10-5 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.

Receptor group	Receptors included within group
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.

- 10.4.8 The list of receptors will be kept under review during the EIA as more detailed information is obtained during baseline surveys and other forms of data collection by other aspects and will be reflected in the final ES.

Potential effects

- 10.4.9 Potential effects on commercial fisheries receptors that have been scoped in for further assessment are summarised in **Table 10-6**. 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 10-6**.
- 10.4.10 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 10-6 Potential effects on commercial fisheries receptors scoped in for further assessment

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

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

Activities or impacts scoped out of assessment

10.4.11 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 10.3**. The current baseline conditions presented in **Section 10.6** sets out data currently available from the study area.

Desk study

Overview

- 10.5.2 The data sources that have been collected and used to inform this commercial fisheries assessment are summarised in **Table 10-7**. As well as UK data sources, data has been sourced from a number of European fisheries bodies, including Government agencies, research bodies and directly from the fishing industry and its representative organisations. Relevant literature from a number of additional sources has also been reviewed and is appropriately referenced throughout **Section 10.6**.

Table 10-7 Data sources used to inform the commercial fisheries PEIR assessment

Country	Data	Time period	Source
UK	Landings statistics data for UK-registered vessels, with data query attributes for: landing year; landing month; vessel length category; ICES rectangle; vessel/gear type; port of landing; species; live weight (tonnes); and value	2015 - 2019	Marine Management Organisation (MMO)
UK	Maps of fishing effort within Sussex IFCA boundaries based on observed fishing activity during sea patrols	2015 - 2019	Sussex Inshore Fisheries Conservation Authority (IFCA)
All Europe	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)	2012 - 2016	European Union (EU) Data Collection Framework (DCF) database
All Europe	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)	2019	European Market Observatory for Fisheries and Aquaculture Products (EUMOFA)

Country	Data	Time period	Source
All Europe	VMS data for Belgian, Dutch, French and German registered vessels with data query attributes for time fishing at a resolution of 1/200th of an ICES rectangle amalgamated for all mobile vessels	2017	International Council for the Exploration of the Sea (ICES)

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 (2015 to 2019; 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 ≥ 12 m 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 ≥ 12 m in length (before 1 January 2012 it applied to vessels ≥ 15 m in length, see Council Regulation (EC) No 1224/2009).
- 10.5.9 Through a European wide data call, ICES collated VMS data for vessels ≥ 12 m 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 $\geq 15\text{m}$ registered to the UK, including all gear types. VMS data for UK vessels have been analysed for 2017.

Data limitations

- 10.5.11 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 the data. A further limitation of landings data is the potential under-reporting of landings associated with potting vessels, which may occur as a result of estimating catches (as opposed to accurate weighing) and not reporting catches that fall below the acceptable limit as defined within the UK Registration of Buyers and Sellers (i.e. when purchases of first sale fish direct from a fishing vessel are wholly for private consumption, and less than 30kg is bought per day).
- 10.5.12 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 is no longer available by ICES rectangle.
- 10.5.13 Lack of first sales data for EU (non-UK) landings statistics is also noted as a data limitation, with first sales values estimated by combining average annual sales prices per species, with landed weight.
- 10.5.14 Limitations of VMS data are primarily focused on the coverage being limited to vessels $\geq 15\text{m}$ (for MMO data on potting gear) and $\geq 12\text{m}$ (for ICES data on bottom-contact mobile gear). 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 does not include vessels typically operating in inshore areas (i.e. which typically comprises of vessels $< 15\text{m}$ in length).
- 10.5.15 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.
- 10.5.16 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. 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**.

10.6 Baseline conditions

Current baseline

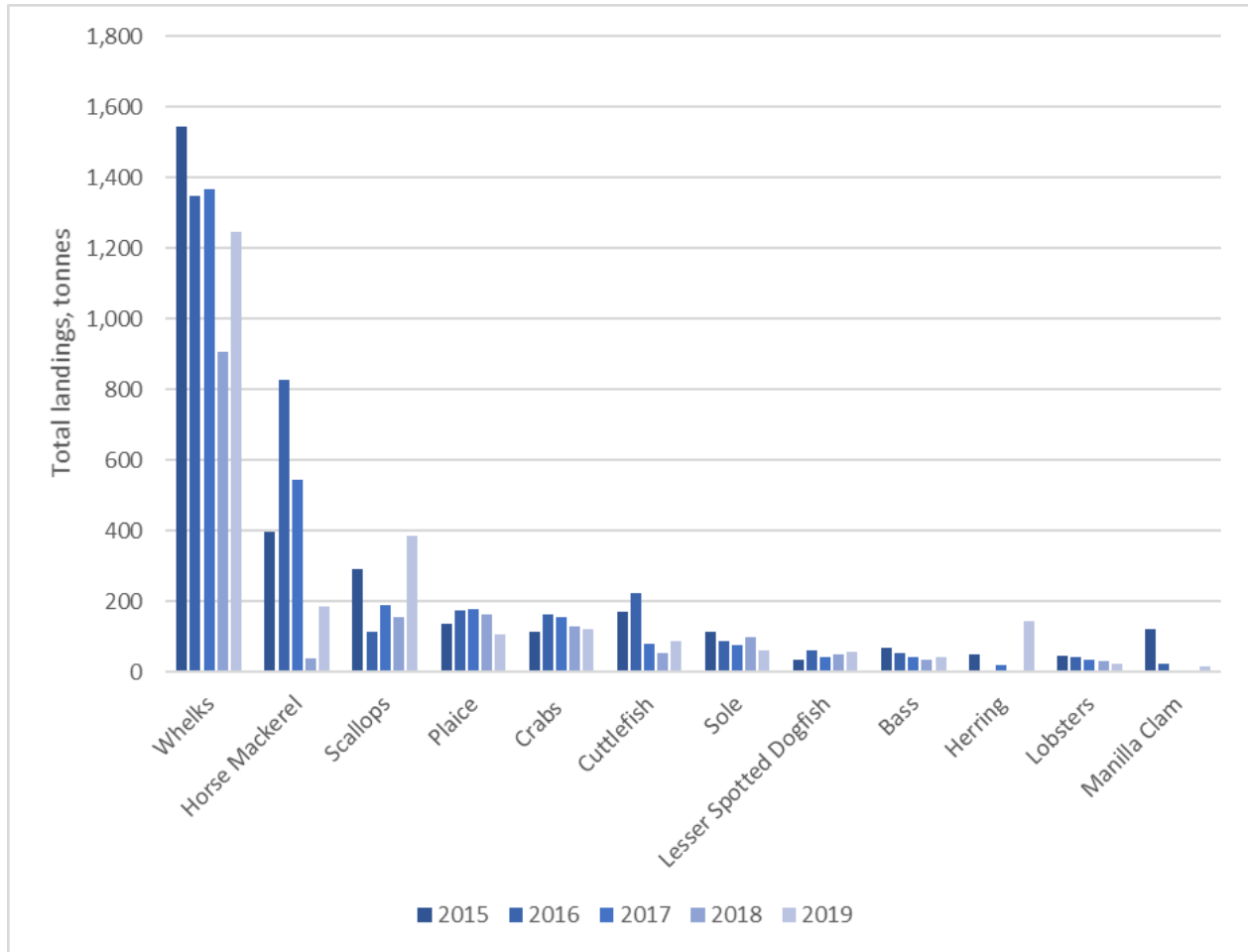
Introduction

- 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; 2015-2019 for MMO data; 2017 for ICES VMS data and 2017 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, Volume 4**, which provides an extended description of baseline conditions, including fishing gear and vessel characteristics and profiles of fishing activity on a country basis.

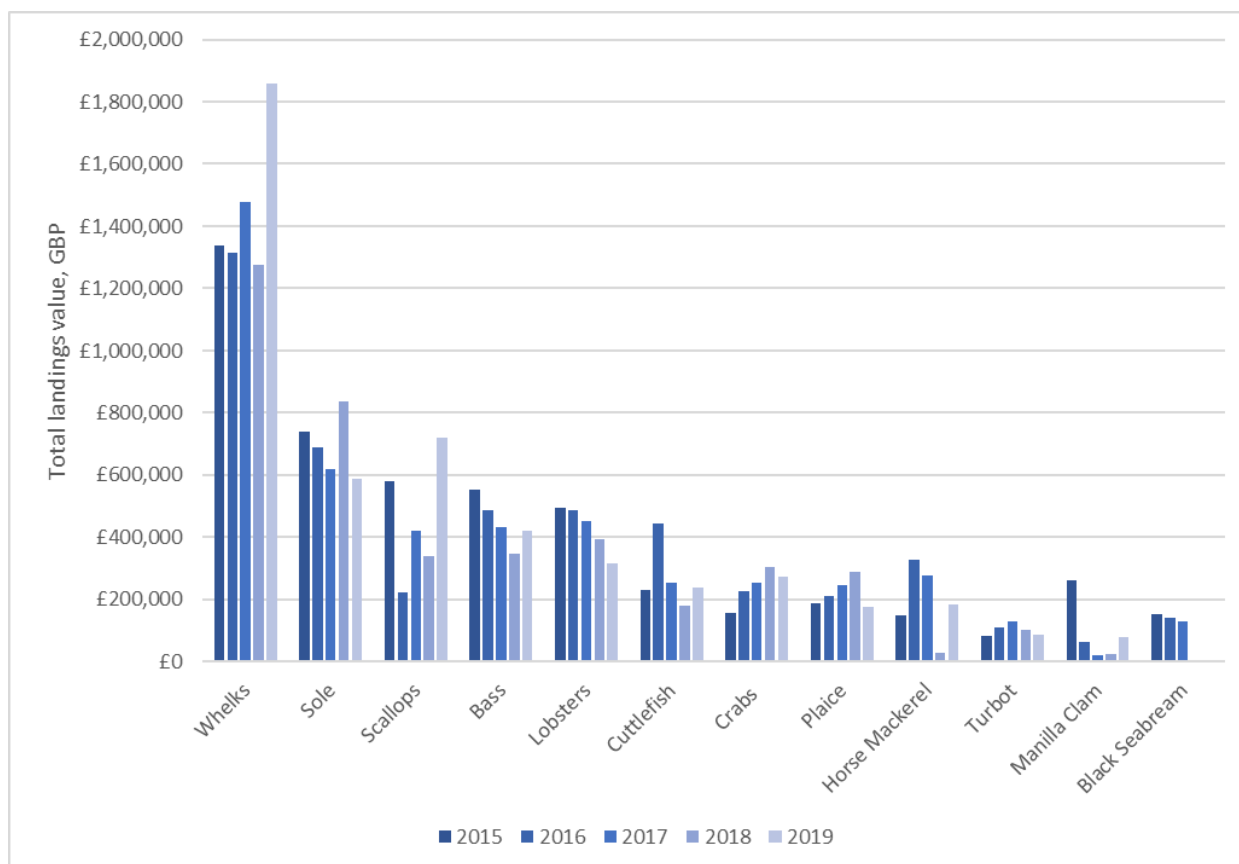
Overview of landings from the study area

- 10.6.4 An annual average value of £5.4 million is landed by all UK vessels for the years 2015 to 2019 from the study area ICES rectangle (based on data from MMO, 2020). Data are presented for the annual (2015-2019) 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 Top twelve species by annual landed weight (tonnes) (2015 to 2019) from the study area (MMO, 2020)

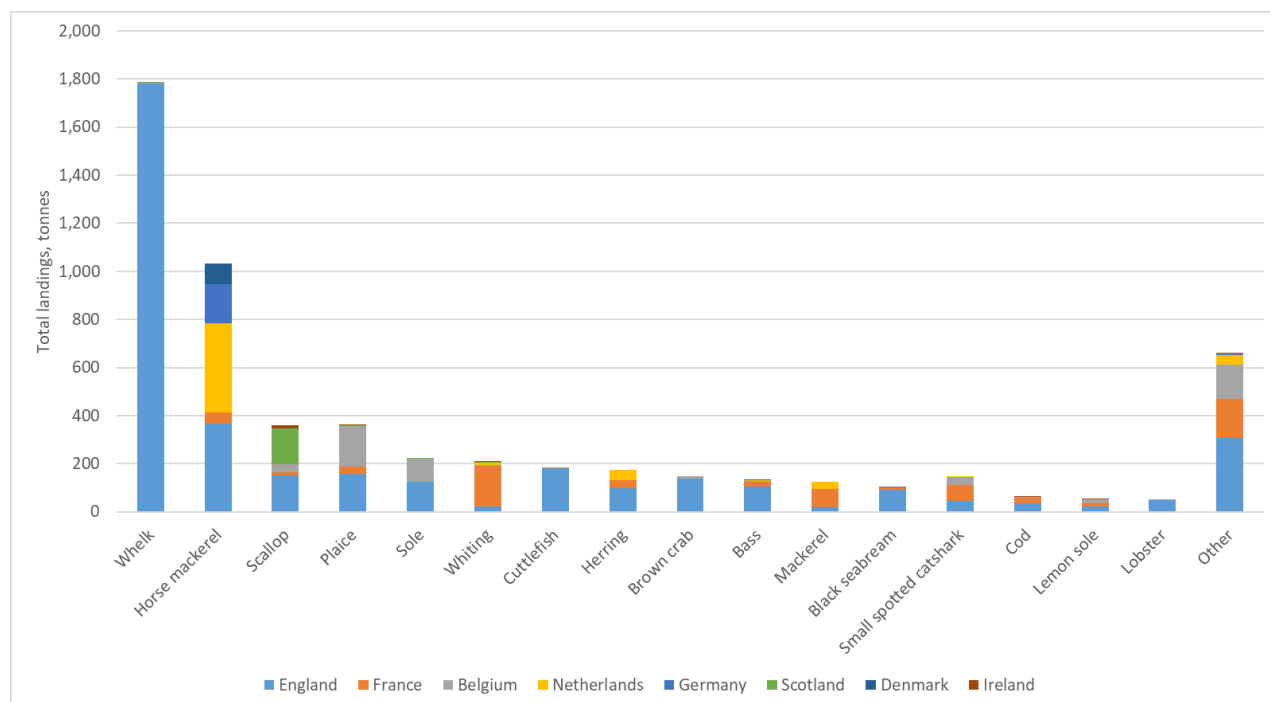


Graphic 10-2 Top twelve species by annual landed value (GBP) (2015 to 2019) from the study area (MMO, 2020)



- 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.

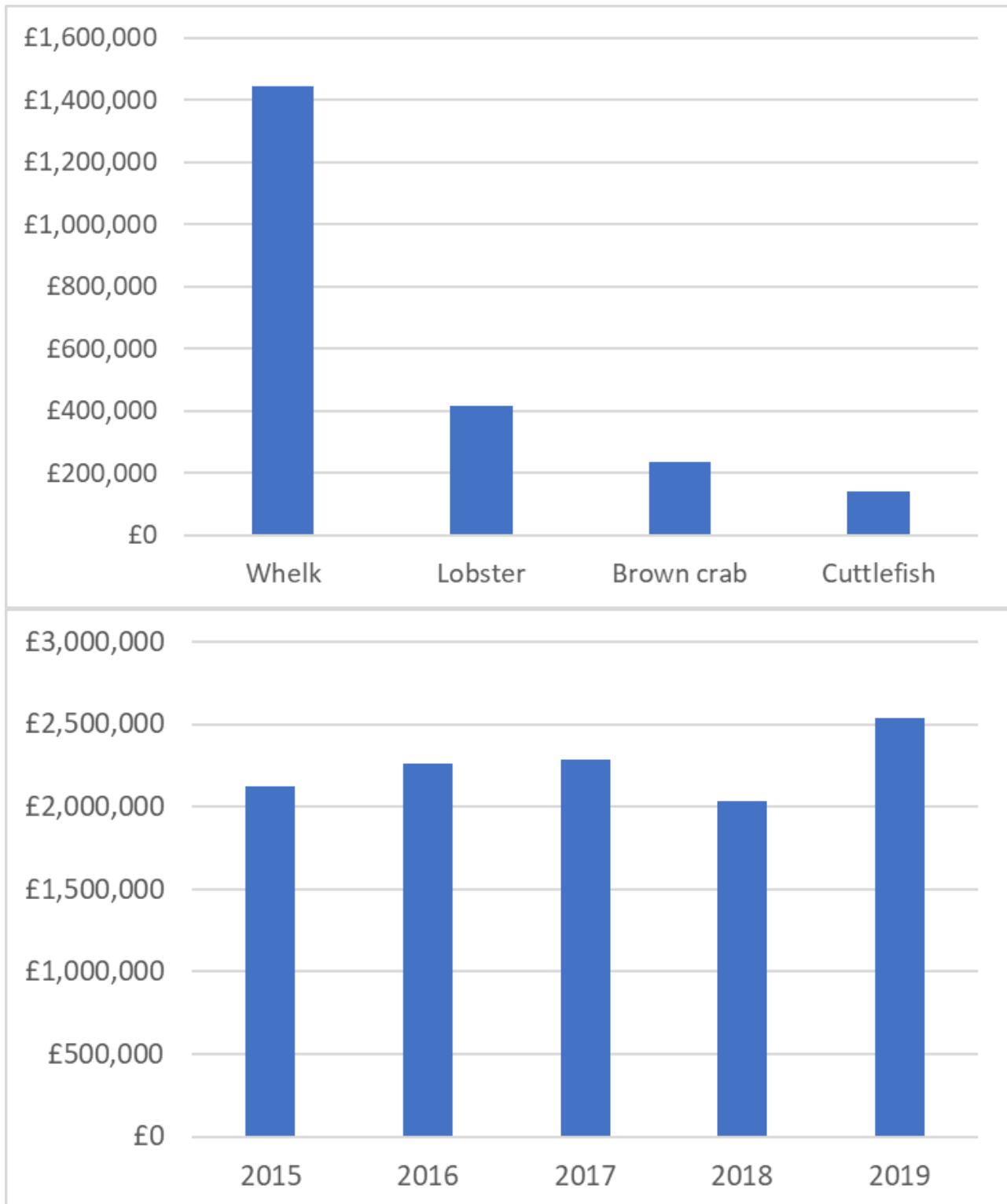
Graphic 10-3 Average annual landed weight (tonnes) of species landed by all UK and EU countries from the study area (2012 to 2016) (EU DCF, 2020)



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 £1.4 million. The potting fishery also targets brown crab, landing an average of 130 tonnes per year, cuttlefish landing 70 tonnes and lobsters, landing 35 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.

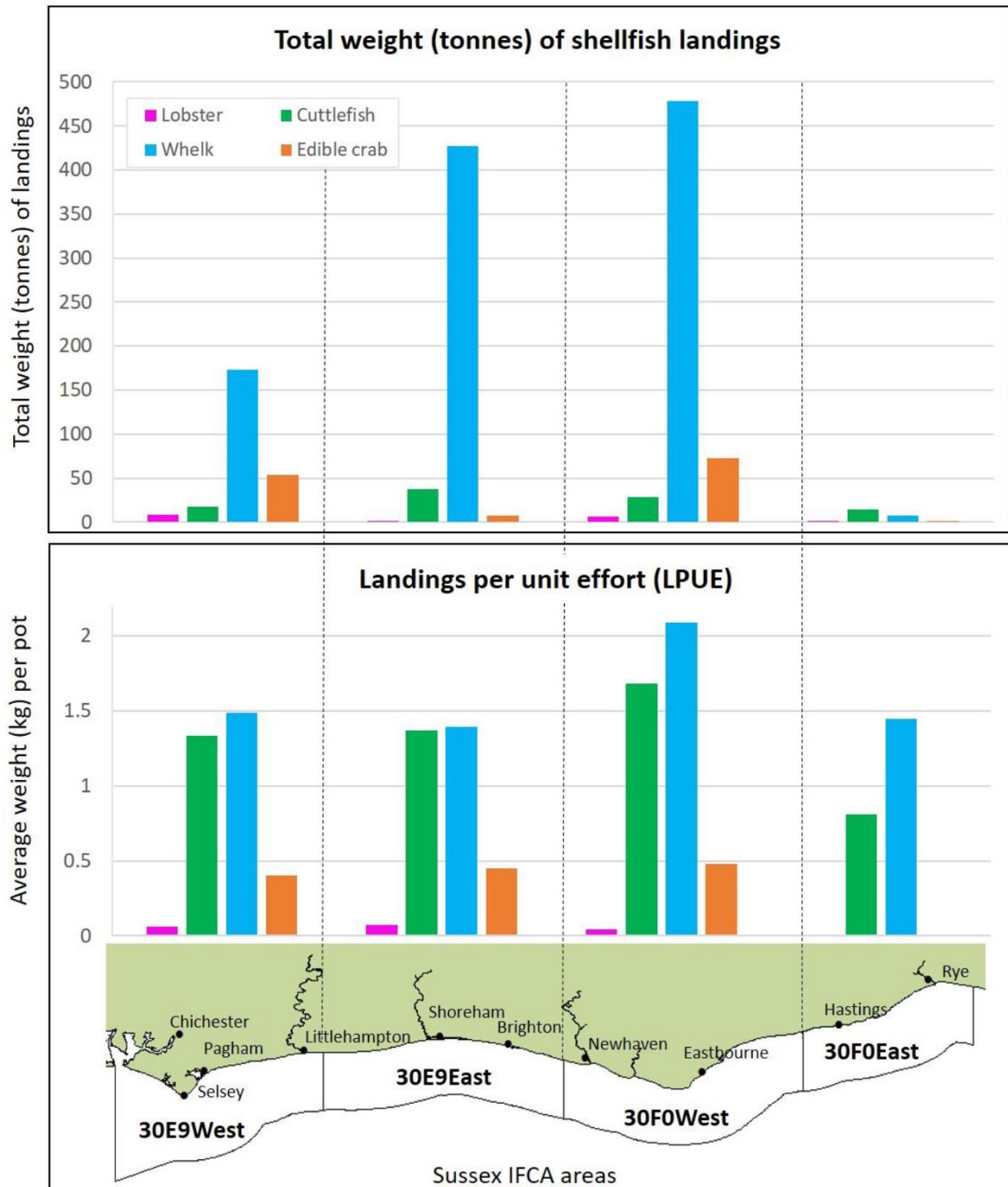
Graphic 10-4 Potting fishery landings profile from Rampion 2 commercial fisheries study area



10.6.7 **Volume 3, Figure 10.2** presents VMS data showing activity by vessels $\geq 15\text{m}$ length actively fishing using pots and traps in 2017. The 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.

- 10.6.8 **Volume 3, Figure 10.3** 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 catch return data further confirms that whelk and crab, and to a lesser extent cuttlefish and lobster, are targeted in and around the offshore cable corridor (**Graphic 10-5**). The greatest shellfish returns are recorded to the west of the offshore cable corridor.

Graphic 10-5 Shellfish landings within Sussex IFCA limits in 2019, based upon Shellfish Permit catch returns (the offshore cable corridor is located in area 30E9West in the figure) (Sussex IFCA, 2020a)



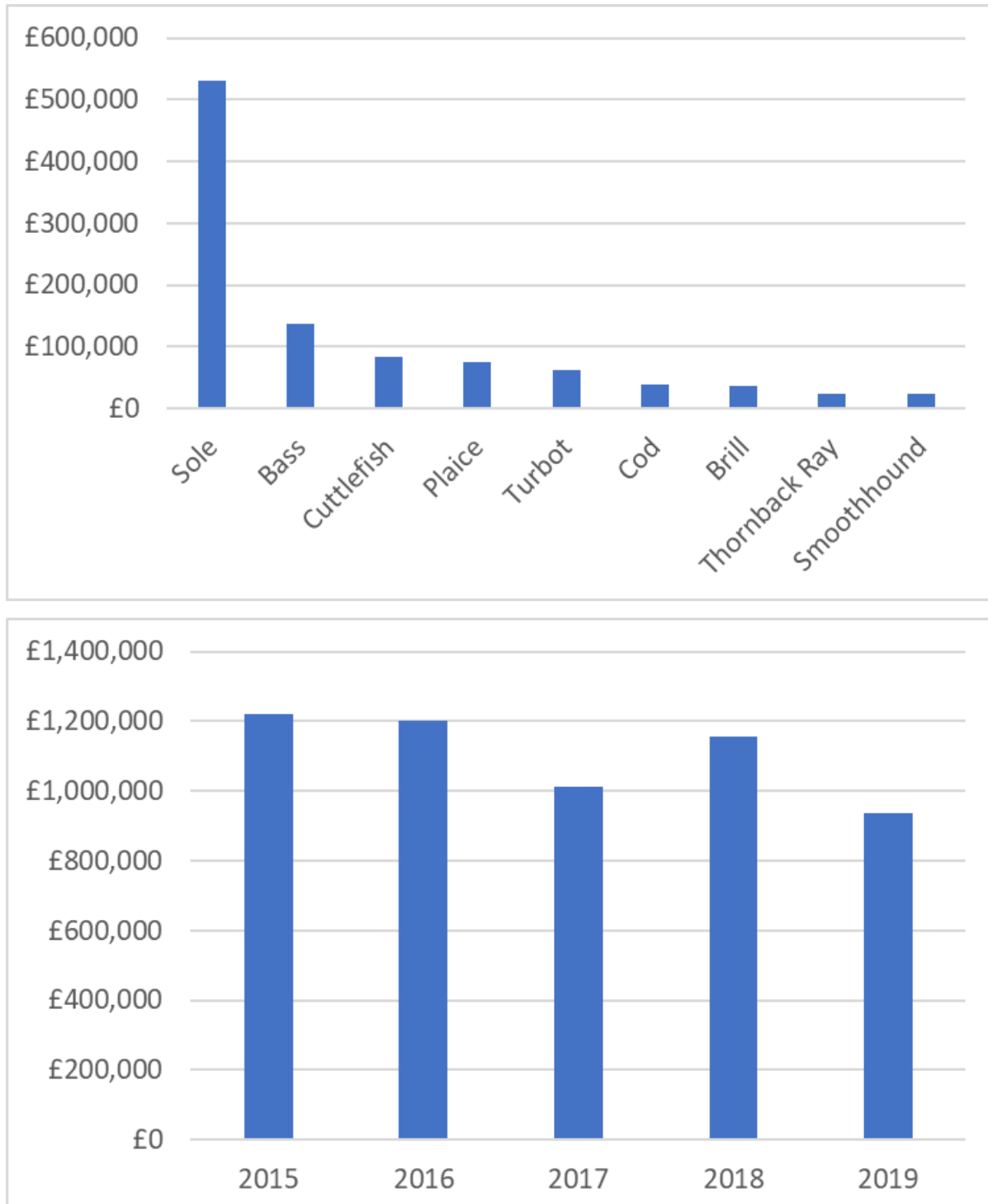
Netting fishery

- 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 68 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 £530,000. The netting fishery also targets bass, cuttlefish, plaice and turbot.

- 10.6.10 An average of 130 tonnes of Brown crab are landed from the study area per year, 70 tonnes of cuttlefish and 35 tonnes of lobsters. The value of landings targeted by the netting fleet has declined slightly over recent years.

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

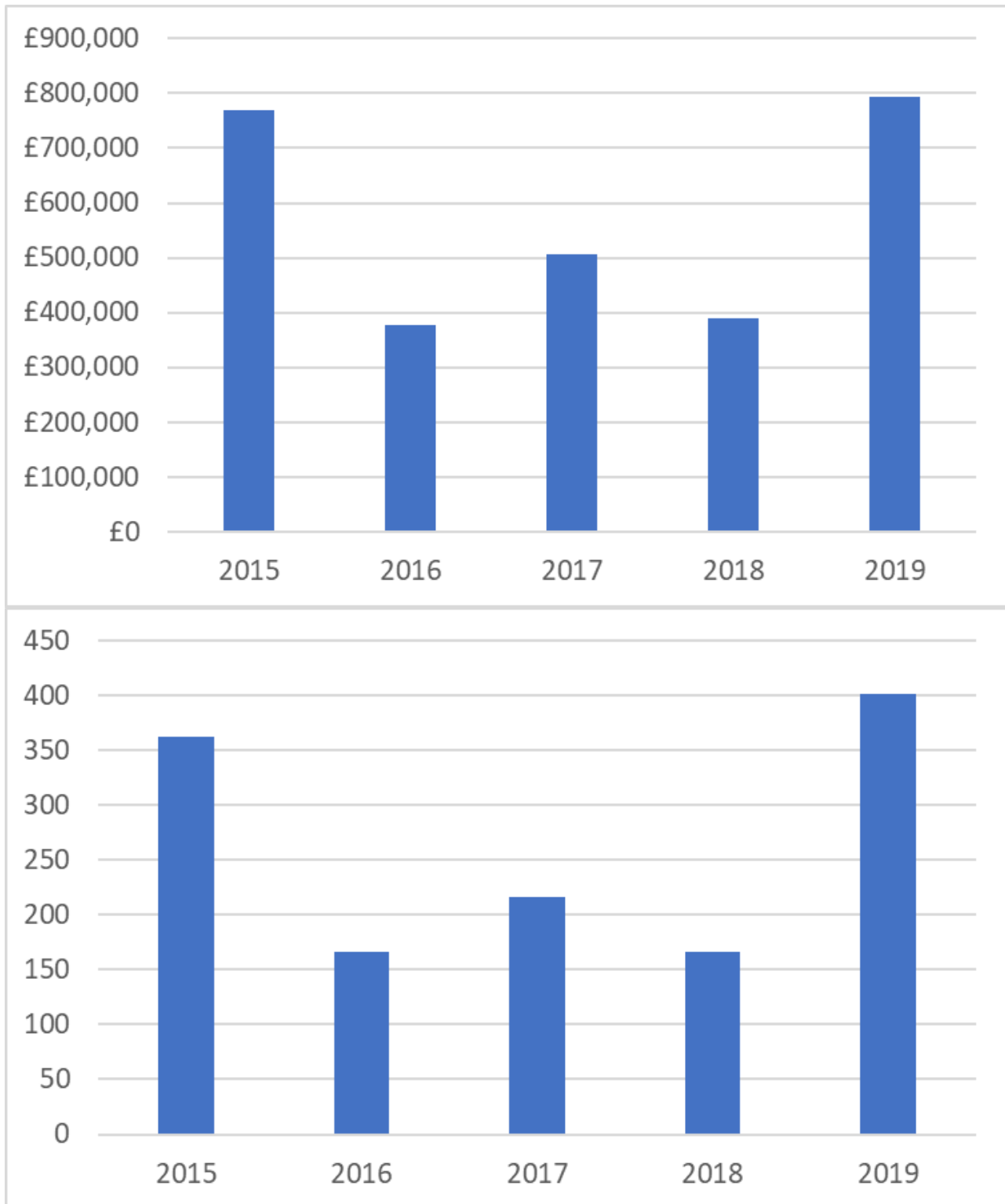


- 10.6.11 Landings statistics confirm that the majority of netting activity is undertaken by vessels under 10m length, and therefore the fishery targets grounds predominantly in inshore waters. **Figure 10.4, Volume 3** presents mapping of inshore fishing effort (inside of 6NM) between 2015 and 2019 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

- 10.6.12 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.
- 10.6.13 Annual landings by the dredge scallop fishery are variable, with lower catches from the study area between 2016 and 2018, compared with 2015 and 2019. Annual landed weight of scallops from the study area peaked in 2019 at 400 tonnes, with a value of almost £800,000. 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



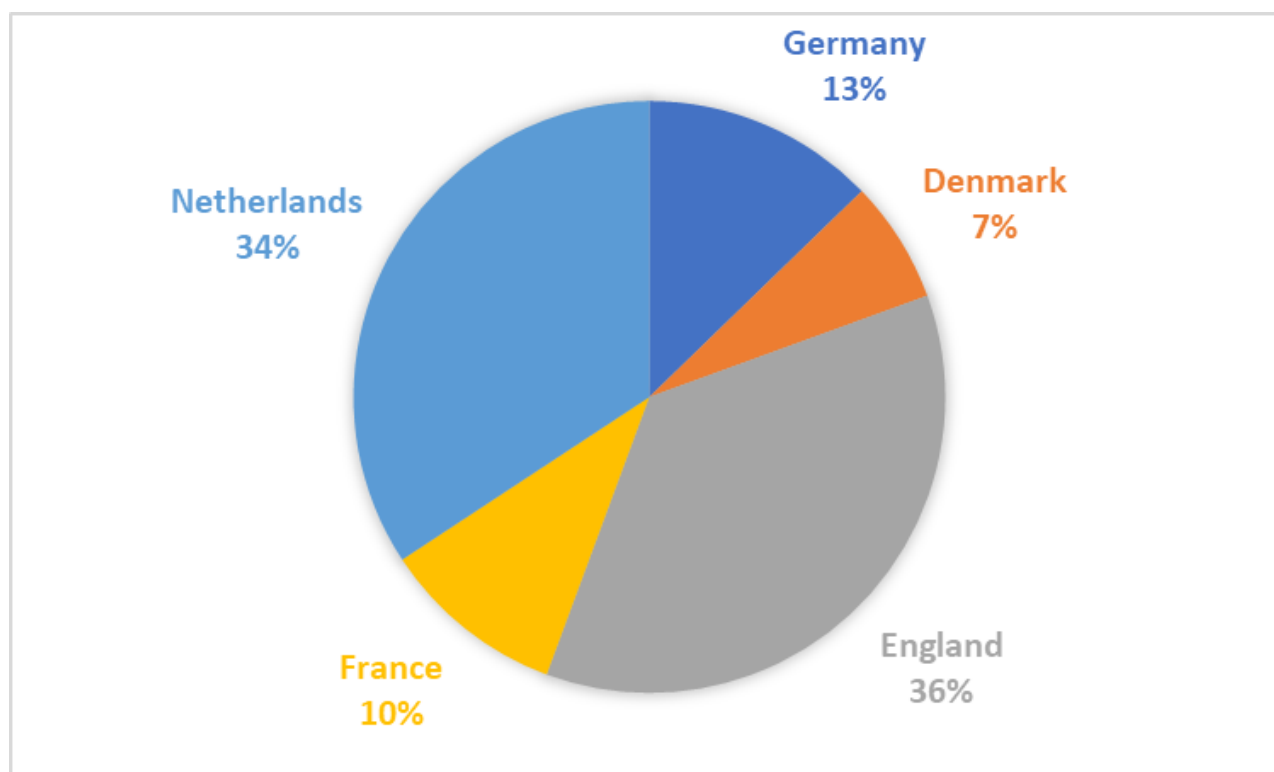
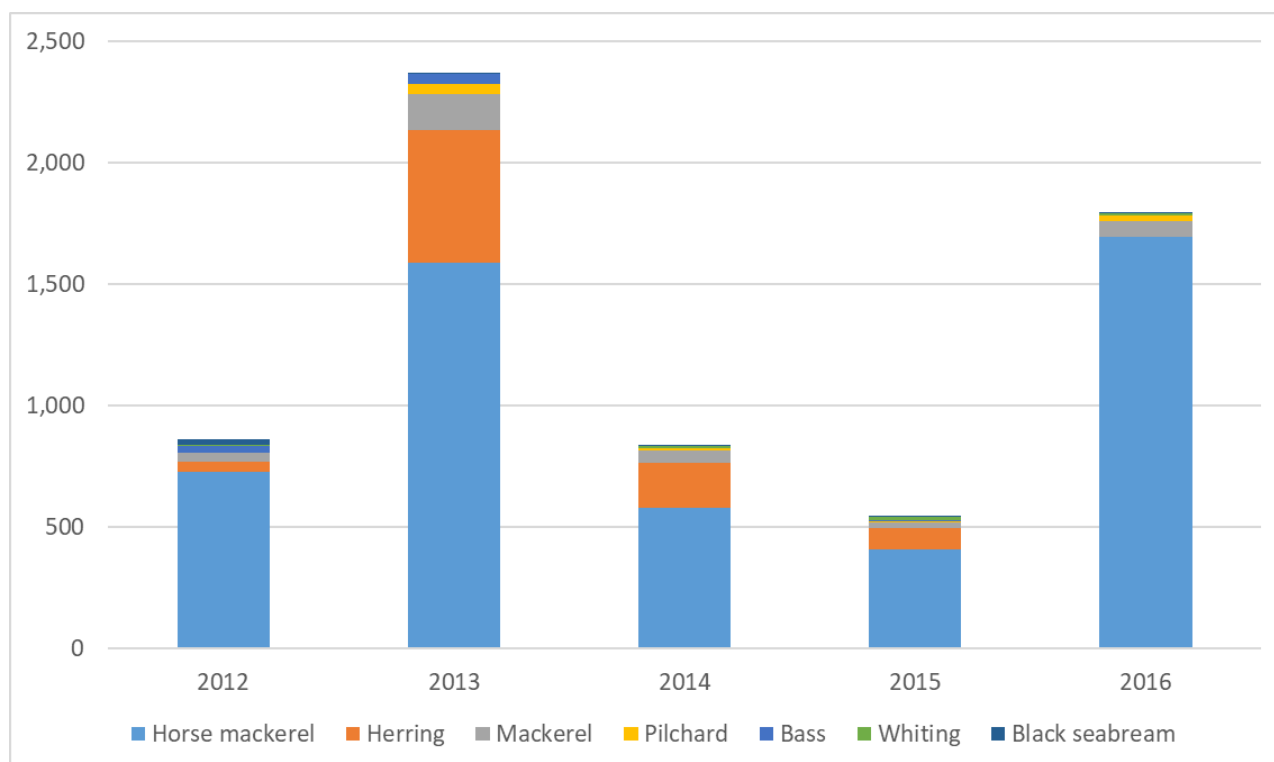
10.6.14 Scallop dredging is an activity which is generally engaged by larger (>10m vessel length) vessels due to the engine capacity required to tow this heavy fishing gear. Due to a vessel length restriction by a Sussex IFCA byelaw, vessels >14m in length are prohibited from fishing within 6NM and a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

- 10.6.15 **Figure 10.5, Volume 3** presents VMS data showing activity by vessels $\geq 15\text{m}$ length actively fishing using dredges in 2017. 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.

Pelagic fishery

- 10.6.16 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.
- 10.6.17 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.
- 10.6.18 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

10.6.19 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.

- 10.6.20 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)



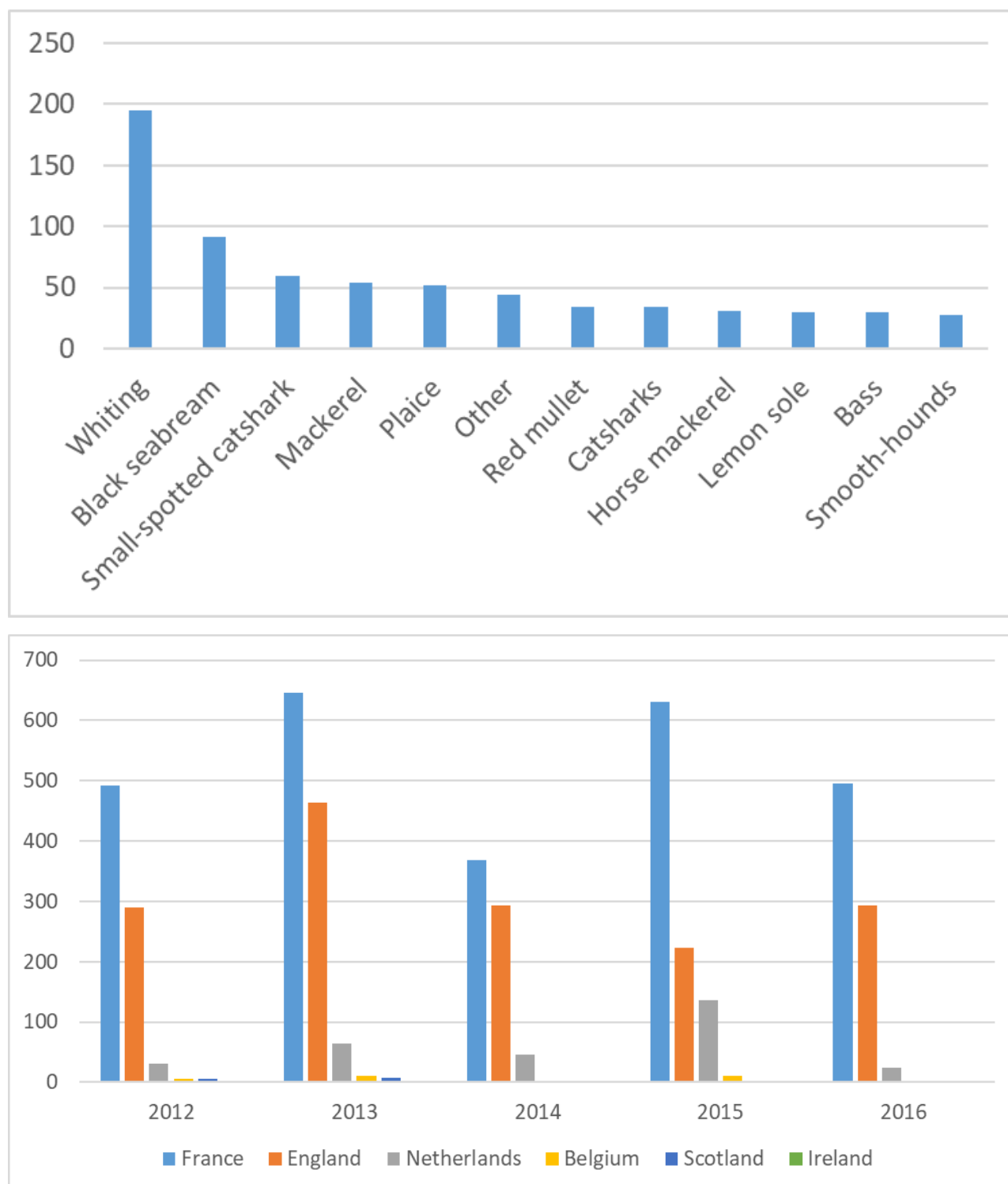
- 10.6.21 **Volume 3, Figure 10.6** presents VMS data showing activity by vessels $\geq 15\text{m}$ length actively fishing using beam trawl in 2017. The data indicate that both UK

and Belgian beam trawl fisheries are active across Rampion 2, and vessels of this size are particularly active across the eastern half of the array area and in adjacent waters to the south and east.

Demersal otter trawl fishery

- 10.6.22 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 whiting and black seabream. MMO landings statistics indicate that UK demersal trawlers land approximately 700 tonnes catch from the study area on an annual basis, valued at £700,000.

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)



10.6.23 **Figure 10.7, Volume 3** presents VMS data showing activity by vessels $\geq 15\text{m}$ length actively fishing using demersal trawl in 2017. 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.

- 10.6.24 **Figure 10.8, Volume 3** 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

- 10.6.25 Commercial fisheries patterns change and fluctuate based on a range of natural and management-controlled factors. This includes the following:
- **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 changes in TACs 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;
 - **sustainability**: with seafood buyers more frequently requesting certification of the sustainability of fish and shellfish products, such as the Marine Stewardship Council certification, industry is adapting to improve fisheries management and wider environmental impacts; and
 - **markets**: commercial fishing fleets respond to market prices by focusing effort on higher value target species when prices are high and markets in demand.
- 10.6.26 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 does not capture any potential changes in commercial fisheries activity resulting from the withdrawal of the UK from the EU.
- 10.6.27 Following withdrawal, 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, 12-200NM) to fish. In this period, EU vessels will also be able to fish in specified parts of UK waters between 6-12NM.
- 10.6.28 25% of the EU's fisheries quota in UK waters will be transferred to the UK over the five-year transition period. 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).

- 10.6.29 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.
- 10.6.30 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 PEIR 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 will not arise should any other development scenario (as described in **Chapter 4: The Proposed Development**) to that assessed within this Chapter be taken forward in the final scheme design.
- 10.7.2 The maximum assessment assumptions that have been identified to be relevant to commercial fisheries are outlined in **Table 10-8** below and are in line with the Project Design Envelope (**Chapter 4**).

Table 10-8 Maximum assessment assumptions for impacts on commercial fisheries

Project phase and activity/impact	Maximum assessment assumptions	Justification
Construction and Decommissioning		
Reduction in access to, or exclusion from established fishing grounds	<p><u>Total temporary reduction</u></p> <p><i>Boulder clearance:</i></p> <p>Total clearance area - Pre-lay Plough for cables = 7,500,000m²</p> <p>Total clearance area - Subsea grab for cables = 4,500,000m²</p> <p>Total clearance area - Foundations and Jack-up legs = 1,100,000m²</p> <p><i>Sandwave clearance:</i></p> <p>Sandwave clearance for inter-array and interconnector cables = 1,375,000 m³</p> <p><i>Safety Zones:</i></p> <p>500m Safety Zones around construction activities = 0.79km² per structure under construction at any one time</p> <p>50m Safety Zones around incomplete structures = 7,854m² per partially constructed structure at any one time</p>	<p>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.</p> <p>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.</p> <p>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.</p>

Project phase and activity/impact	Maximum assessment assumptions	Justification
	<p>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</p> <p><i>Offshore cables:</i></p> <p>Burial of 250km of inter-array cables = 6,250,000m² total disturbance</p> <p>Burial of 50km of interconnector export cables = 1,250,000m²</p> <p>Burial of export cables = 2,015,000m² total disturbance</p> <p><i>Construction Duration:</i></p> <p>Offshore construction over a 4-year period.</p> <p><u>Total permanent reduction</u></p> <p><i>Wind Turbine Generators (WTGs) and platforms:</i></p> <p>WTG footprint with scour protection (9,200m², per monopile), based on the larger WTG type = 690,000m²</p> <p>Offshore substation footprint (jacket with pin piles foundation) with scour protection (8,800m², per monopile) based on up to three OSS = 26,400m²</p>	

Project phase and activity/impact	Maximum assessment assumptions	Justification
	<p><i>Offshore Cables:</i></p> <p>Maximum rock protection area for array cable crossings (10,000m² per crossing, four crossing expected) = 40,000m²</p> <p>Maximum rock protection area for array cables (based on 20% of cable requiring protection) = 260,000m²</p> <p>Maximum rock protection area for interconnector cables (based on 20% of cable requiring protection) = 40,000m²</p> <p>Maximum rock protection area for export cables (based on 20% of cable requiring protection) = 61,000m²</p>	
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 scenario for

Project phase and activity/impact	Maximum assessment assumptions	Justification
Increased vessel traffic associated with Rampion 2 within fishing grounds leading to interference with fishing activity	<p><u>WTG foundation installation (based on the smaller WTG type):</u></p> <p>3 installation vessels (60 return trips)</p> <p>10 support vessels (60 return trips)</p> <p>6 transport vessels (500 return trips)</p> <p>6 crew transfer vessels (500 return trips)</p> <p>24 months duration</p> <p><u>WTG installation (based on the smaller WTG type):</u></p> <p>2 installation vessels (40 return trips)</p> <p>10 support vessels (100 return trips)</p> <p>10 crew transfer vessels (750 return trips)</p> <p>12 months duration</p> <p><u>Substation installation:</u></p> <p>3 installation vessels (12 return trips)</p> <p>20 support vessels (12 return trips)</p> <p>6 transport vessels (12 return trips)</p>	<p>the fish and shellfish chapter, rather than any one impact in particular.</p> <p>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.</p> <p>The maximum number of vessels transits and the maximum duration of the construction will result in the greatest potential for interference.</p>

Project phase and activity/impact	Maximum assessment assumptions	Justification
Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Rampion 2 area	<p>6 crew transfer vessels (60 return trips)</p> <p>8 months duration</p> <p><u>Inter-array and interconnector cable installation:</u></p> <p>3 main cable laying vessels (12 return trips)</p> <p>3 main burial vessels (6 return trips)</p> <p>13 support vessels (300 return trips)</p> <p>16 months duration</p> <p><u>Offshore export cable installation:</u></p> <p>1 main laying vessel (6 return trips)</p> <p>1 main cable joining vessel (6 return trips)</p> <p>2 main cable burial vessels (6 return trips)</p> <p>10 support vessels (60 return trips)</p> <p>6 months duration</p>	This represents the maximum duration and extent of fishing exclusion throughout the construction phase and hence the greatest potential for additional steaming to alternative grounds.
	As for 'Reduction in access to, or exclusion from established fishing grounds' (see above).	

Project phase and activity/impact	Maximum assessment assumptions	Justification
Operation and Maintenance		
Reduction in access to, or exclusion from established fishing grounds	<p><u>Total permanent reduction:</u></p> <p><i>WTGs and platforms:</i></p> <p>WTG footprint with scour protection (9,200m², per monopile), based on the larger WTG type = 690,000m²</p> <p>Minimum WTG spacing of 860m (based on installation of the smaller WTG type).</p> <p>Offshore substation footprint (jacket with pin piles foundation) with scour protection (8,800m², per monopile) based on up to three OSS = 26,400m²</p> <p><i>Offshore export cables:</i></p> <p>Maximum rock protection area for array cable crossings (10,000m² per crossing, four crossing expected) = 40,000m²</p> <p>Maximum rock protection area for array cables (based on 20% of cable requiring protection) = 260,000m²</p> <p>Maximum rock protection area for interconnector cables (based on 20% of cable requiring protection) = 40,000m²</p>	<p>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.</p> <p>The smaller the spacing between WTGs the greater the potential for vessels to have restricted access to the site.</p> <p>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 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,</p>

Project phase and activity/impact	Maximum assessment assumptions	Justification
	<p>Maximum rock protection area for export cables (based on 20% of cable requiring protection) = 61,000m²</p> <p><u>Temporary reduction from maintenance activities:</u></p> <p><i>WTG maintenance:</i></p> <p>350 painting and 17,500 cleaning events.</p> <p><i>WTG component replacement:</i></p> <p>450m² jack-up footprint per exchange event</p> <p>875 exchange events over lifetime</p> <p><i>Cable remedial burial:</i></p> <p>18 array cable remedial burial events over lifetime</p> <p>3 export cable remedial burial events per cable over lifetime</p> <p>200,000m² seabed disturbance per cable remedial burial event</p> <p><i>Cable repairs:</i></p> <p>100 array cable repair events over lifetime</p> <p>35 export cable repair events over lifetime</p> <p>450m² jack-up footprint per repair event</p>	<p>certain gear types including trawls will not be practically deployed within the operational array.</p>

Project phase and activity/impact	Maximum assessment assumptions	Justification
	<p><i>Offshore substation maintenance:</i></p> <p>6 painting, 21 touch-up painting and 450 cleaning events</p> <p><i>Offshore substation component replacement:</i></p> <p>27 exchange events over lifetime</p> <p>1,100m² jack-up footprint per exchange event.</p> <p><i>Anode Replacement:</i></p> <p>700 anode replacement events over lifetime</p> <p><i>J-Tube Replacement:</i></p> <p>60 J-tube replacement events over lifetime</p> <p><i>Safety Zones:</i></p> <p>500m safety zones around manned offshore platforms and temporary 500m safety zones around WTGs and offshore platforms undergoing major maintenance.</p> <p>Duration: Operational design life of approximately 30 years.</p>	
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)

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	See fish and shellfish ecology maximum design scenario presented in Chapter 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	<p><i>Vessel Trips:</i></p> <p>10 crew transfer vessels</p> <p>2 Service Operation Vessels</p> <p>Up to 1,095 WTG visits per year</p> <p>4 jack-up vessels with up to 31 trips per year</p> <p><i>Duration:</i></p> <p>Operational design life of 30 years.</p>	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.	<p>The scenario which represents the potential for the maximum level of infrastructure to be decommissioned.</p> <p>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 will likely be left in situ.</p>
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 will evolve over the development process as the EIA progresses and in response to consultation. They will be fed iteratively into the assessment process.
- 10.7.4 These measures typically include those that have been identified as good or standard practice and include actions that will 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 PEIR.
- 10.7.5 **Table 10-9** sets out the relevant embedded environmental measures within the design and how these affect the commercial fisheries assessment.

Table 10-9 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 Plan.	Scoping	DCO requirements or 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 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	Scoping	DCO requirements or DML conditions	Reduces potential for impacts on Commercial fisheries by providing advance notification of Rampion 2 operations during

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
	14 days prior to the commencement of the authorised project 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.			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 construction, maintenance and decommissioning operations via an appointed Fisheries Liaison Officer and Fishing Industry Representative.	Scoping	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 zones of up to 500m will be sought during construction, maintenance and decommissioning phases. Where appropriate, guard vessels will also be	Scoping	Electricity application procedures (Section	Minimises the potential for impacts on Commercial fisheries in relation to fishing

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
	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.		95 of Energy Act 2004)	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 to

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to the assessment
C-194	RED will develop an Outline Fisheries Liaison and Co-existence Plan (FLCP) for submission with the DCO Application. 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	PEIR	Deemed marine licence	<p>ensure potential impacts are minimised and co-existence can be achieved throughout all phases of the Proposed Development.</p> <p>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.</p>

10.8 Methodology for PEIR assessment

Introduction

- 10.8.1 The project-wide generic approach to assessment is set out in **Chapter 5: Approach to the EIA**. The assessment methodology for commercial fisheries for the PEIR is consistent with that provided in the Scoping Report (RED, 2020).

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 10-10** below.

Table 10-10 Definition of terms relating to receptor sensitivity

Sensitivity	Definition used in this chapter
Very High	Receptor is highly vulnerable to impacts that may arise from the Proposed Development and recoverability is long term or not possible and/or no alternative fishing grounds are available.
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.

- 10.8.3 The criteria for defining impact magnitude in this chapter are outlined in **Table 10-11** 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 10-11 Definition of terms relating to magnitude of an impact

Magnitude of impact	Definition used in this chapter
Major (Adverse)	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> ▶ 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)	<p>Impact is expected to result in one or more of the following:</p> <ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> ▶ 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)	<p>Impact is expected to result in one or more of the following:</p> <ul style="list-style-type: none"> • moderate improvement of resource quality; and • moderate restoration or enhancement of habitats supporting commercial fisheries resources.
Minor (Adverse)	<ul style="list-style-type: none"> • impact is of short-term duration (e.g. less than 5 years) and/or is of limited physical extent; and • impact is expected to result in one or more of the following: <ul style="list-style-type: none"> ▶ 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	<p>Impact is expected to result in one or more of the following:</p>

Magnitude of impact	Definition used in this chapter
(Beneficial)	<ul style="list-style-type: none"> • minor benefit to or minor improvement of resource quality; and • minor restoration or enhancement of habitats supporting commercial fisheries resources.
Negligible (Adverse)	<ul style="list-style-type: none"> • impact is of very short-term duration (e.g. less than 2 years) and/or physical extent of impact is negligible; and • impact is expected to result in one or more of the following: <ul style="list-style-type: none"> ▶ 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)	<p>Impact is expected to result in one or more of the following:</p> <ul style="list-style-type: none"> • 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 10-12**. Where a range of significance of effect is presented in **Table 10-12**, 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 (Graphic 5-3)**.

Table 10-12 Matrix used for the assessment of the significance of the effect

		Magnitude of impact (degree of change)			
		Negligible	Minor	Moderate	Major
Environmental value (sensitivity)	Low	Negligible (Not Significant)	Negligible (Not Significant)	Minor (Not Significant)	Minor (Not Significant) or Moderate (Significant)
	Medium	Negligible (Not Significant)	Minor (Not Significant) or Moderate (Significant)	Moderate (Significant)	Moderate (Significant)
	High	Minor (Not Significant)	Minor (Not Significant) or Moderate (Significant)	Moderate (Significant)	Major (Significant)
	Very High	Minor (Not Significant)	Moderate (Significant)	Major (Significant)	Major (Significant)

10.9 Preliminary assessment: Construction phase

Introduction

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 three years, with a number/range of construction activities being undertaken simultaneously across the site.

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 5 years, as per definition in **Table 10-11**). 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 below 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 the array area. An average annual first sales value of £2.2 million landings is taken specifically within the study area by UK potting vessels. Noting that the array area overlaps with approximately 18.4% of this study area, this equates to a pro-rata value of £405,000 (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 £1.1 million 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 £570,000 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 130 tonnes of fish caught by beam trawlers working in the study area are landed annually by UK vessels (based on an average across 2015 – 2019).
- 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 10-9**) include advance notification of planned construction activities to fishermen (C-46) and ongoing liaison throughout construction (C-47).
- 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 **Significant** in EIA terms. In response to this, and specific to the UK potting fleet where there is a significant residual impact, the Outline FLCP (C-194) will explore options to encourage co-existence and further mitigate the effect, including cooperation agreements and 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 Outline FLCP 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 **negligible**, 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 **negligible**, 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 **negligible**, 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 **negligible**, 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 below 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 10-9**), 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 £1.1 million 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 10-9**) 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 **Significant** in EIA terms. In response to this, and specific to the UK potting fleet where there is a significant residual impact, the Outline FLCP (C-194) will explore options to encourage co-existence and further mitigate the effect, including cooperation agreements and 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 Outline FLCP 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 **negligible**, 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 **negligible**, 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 **negligible**, 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 **negligible**, 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 **negligible**, 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 **negligible**, 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 **negligible**, 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 Outline 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 **negligible**, 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 **negligible**, 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 **negligible**, 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**:
- 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; and
 - temporary localised increases in SSC and smothering.
- 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 10-13**; justifications for this assessment will not be repeated in this chapter. Evidence, modelling and justifications for these assessments are provided in **Chapter 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.

Table 10-13 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	Sandeel	Minor adverse
	Herring	Minor adverse
	Black seabream	Minor adverse
	Other fish and shellfish	Minor adverse
Direct disturbance resulting from the installation of the export cable	Sandeel	Minor adverse
	Herring	Minor adverse
	Black seabream	Minor adverse
	Shellfish	Minor adverse
Direct disturbance resulting from construction within the array	All fish and shellfish	Minor adverse
Temporary localised increases in SSC and smothering	All fish and shellfish	Minor adverse

Sensitivity or value of receptor

- 10.9.91 Exposure to the impact is likely and commercial fleets targeting key species will be affected, including those targeting herring, black seabream and shellfish species including brown crab, lobster and whelk.
- 10.9.92 Due to the locality of the impact on shellfish species, there is potential for grounds beyond the immediate construction activities to be affected by increased suspended sediment and sediment deposition, impacting the wider potting fleet. 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**.

- 10.9.93 Due to the locality of the impact on scallops there is potential for grounds beyond the immediate construction activities to be affected by increased suspended sediment and sediment deposition, impacting the wider area targeted by scallop dredge vessels. 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**.
- 10.9.94 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 pelagic and demersal fisheries is therefore, considered to be **low**.

Significance of residual effect

- 10.9.95 Pelagic and demersal fisheries: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is **negligible**, which is **Not Significant** in EIA terms.
- 10.9.96 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

- 10.9.97 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

- 10.9.98 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** for a full assessment of additional vessel movements).
- 10.9.99 It is noted that continuous liaison with the fishing industry will be undertaken including location and duration of construction activities; further details will be provided in an Outline Fisheries Coexistence and Liaison Plan which will be included as part of the DCO Application.
- 10.9.100 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

- 10.9.101 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**.
- 10.9.102 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

- 10.9.103 The Rampion 2 embedded environmental measures (as shown in **Table 10-9**) 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.
- 10.9.104 **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.
- 10.9.105 **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.
- 10.9.106 **Dredge fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is **negligible**, which is **Not Significant** in EIA terms.
- 10.9.107 **Pelagic trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is **negligible**, which is **Not Significant** in EIA terms.
- 10.9.108 **Beam trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is **negligible**, which is **Not Significant** in EIA terms.
- 10.9.109 **Demersal otter trawl fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is **negligible**, 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

- 10.9.110 A detailed Navigational Risk Assessment has been undertaken within **Chapter 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

- 10.9.111 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.
- 10.9.112 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

- 10.9.113 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.
- 10.9.114 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.
- 10.9.115 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.
- 10.9.116 Vessel traffic survey data presented in **Chapter 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.

- 10.9.117 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

- 10.9.118 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.
- 10.9.119 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 **negligible** significance, which is **Not Significant** in EIA terms.

10.10 Preliminary assessment: 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 10-8** 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 10-8**. Minimum WTG spacing is 860m, 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**, 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 Westernmost 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 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 **negligible**, 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 **negligible**, 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 **negligible**, 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, 2019).

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 **negligible**, 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 **negligible**, 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 **negligible**, 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 **negligible**, 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 **negligible**, 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**:
- 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 10-14**.
- 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. The magnitude is therefore considered to be minor for all species in relation to all potential impacts.

Table 10-14 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	All fish and shellfish species	Minor adverse
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	All fish and shellfish species	Minor adverse

Sensitivity or value of receptor

- 10.10.52 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 pelagic and demersal fisheries.

Significance of residual effect

- 10.10.53 Pelagic and demersal fisheries: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is **negligible**, which is **Not Significant** in EIA terms.
- 10.10.54 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

- 10.10.55 The effects of the operational and maintenance phase are expected to be the same or similar to the effects from construction (see **paragraphs 10.9.103 to 10.9.109**). The significance of effect is therefore **minor adverse** for UK potting and netting fisheries, and **negligible** for all other fisheries, which is **Not Significant** in EIA terms.

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

Overview

- 10.10.56 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**.

Magnitude of impact

- 10.10.57 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 (C-90), in particular section 9: Dealing with claims for loss or damage of gear (FLOWW, 2006 and 2014; BERR, 2008).
- 10.10.58 Snagging poses a risk to fishing equipment and in extreme cases may potentially lead to capsizing 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.
- 10.10.59 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.

- 10.10.60 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

- 10.10.61 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.
- 10.10.62 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**.
- 10.10.63 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

- 10.10.64 The Rampion 2 embedded environmental measures (as shown in **Table 10-9**) include adherence to FLOWW guidance (C-90), a commitment to cable burial as the preferred option for cable protection (C-45), and appropriate marking and charting of infrastructure (C-62). 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.
- 10.10.65 **Potting fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **negligible** significance, which is **Not Significant** in EIA terms.
- 10.10.66 **Netting fishery**: overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **negligible** significance, which is **Not Significant** in EIA terms.
- 10.10.67 **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.
- 10.10.68 **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.
- 10.10.69 **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.

- 10.10.70 **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

- 10.10.71 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

- 10.10.72 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**.
- 10.10.73 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**.
- 10.10.74 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

- 10.10.75 The Rampion 2 embedded environmental measures (as shown in **Table 10-9**) include adherence to FLOWW guidance (C-90) and a commitment to cable burial as the preferred option for cable protection (C-45). 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.
- 10.10.76 **Potting fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **negligible** significance, which is **Not Significant** in EIA terms.
- 10.10.77 **Netting fishery:** overall, it is predicted that the sensitivity of the receptor is low and the magnitude is minor. The effect is of **negligible** significance, which is **Not Significant** in EIA terms.
- 10.10.78 **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.

- 10.10.79 **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.
- 10.10.80 **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.
- 10.10.81 **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

- 10.10.82 A detailed Navigational Risk Assessment has been undertaken within **Chapter 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.

Magnitude of impact

- 10.10.83 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.
- 10.10.84 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.
- 10.10.85 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.
- 10.10.86 The magnitude is considered to be **minor** for all fishing fleets.

Sensitivity or value of receptor

- 10.10.87 The sensitivity of commercial fishing fleets to this impact is expected to be the same or similar to that for construction (see **paragraph 10.9.113 to 10.9.118**) and is **medium** for UK fleets and low for EU and pelagic fleets.

Significance of residual effect

- 10.10.88 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.
- 10.10.89 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 **negligible** significance, which is **Not Significant** in EIA terms.

10.11 Preliminary assessment: 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 10-8** 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 **negligible** for the netting, dredge, pelagic trawl, UK beam trawl and Demersal otter trawl fisheries, **minor adverse** for the Belgian beam trawl fleet and the UK potting fleet, 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**). The significance of effect is therefore **negligible** for the dredge, pelagic trawl, beam trawl and demersal otter trawl fisheries, and **minor adverse** for the UK netting fleet and UK potting fleet, which is **Not Significant** in EIA terms.

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

- 10.11.5 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**). The significance of effect is therefore **negligible** for all fleets with the exception of the UK potting fleet, where the effect is of **minor adverse** significance and **Not Significant** in EIA terms.

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

- 10.11.6 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 **negligible** for all fleets with the exception of the UK potting and netting fleets, where the effect is of **minor adverse** significance and **Not Significant** in EIA terms.

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

- 10.11.7 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 **paragraphs 10.9.61 to 10.9.67**). The significance of effect is **negligible** for the UK potting and netting fisheries and the pelagic trawl fishery, and **minor adverse** for

the dredge, beam trawl and Demersal otter trawl fisheries, which is also **Not Significant** in EIA terms.

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

- 10.11.8 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 10.9.95 and 10.9.96**). The significance of effect therefore ranges between **negligible** to **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

- 10.11.9 The effects of decommissioning activities are expected to be the same or similar to the effects from construction (see **paragraphs 10.9.103 to 10.9.109**). The significance of effect is therefore **minor adverse** for UK potting and netting fisheries, which is **Not Significant** in EIA terms, and **negligible** for dredge, pelagic, beam trawl and Demersal otter trawl 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

- 10.11.10 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 UK commercial fishing fleets (see **paragraph 10.9.118**), which is **Not Significant** in EIA terms, and negligible for EU and pelagic fishing fleets (see **paragraph 10.9.119**), which is **Not Significant** in EIA terms.

10.12 Preliminary assessment: Cumulative effects

Approach

- 10.12.1 A preliminary cumulative effects assessment (CEA) has been carried out for Rampion 2 which examines the result from the combined impacts of Rampion 2 with other developments on the same single receptor or resource and the contribution of Rampion 2 to those impacts. This includes all developments that result in a comparative effect that is not intrinsically considered as part of the existing baseline environment and is not limited to offshore wind projects. The overall method followed in identifying and assessing potential cumulative effects in relation to the offshore environment is set out in **Chapter 5, Section 5.10**.
- 10.12.2 The offshore screening approach is based on the PINS Advice Note Seventeen (PINS, 2019b), with relevant components of the RenewableUK (RenewableUK,

2013) accepted guidance, which includes aspects specific to the marine elements of an offshore wind farm.

Cumulative effects assessment

Overview

- 10.12.3 For the majority of potential effects for commercial fisheries, other planned developments were screened into the assessment based on a study area of the eastern English Channel (the commercial fisheries Zone of Influence [ZOI]), to provide appropriate coverage of relevant fishing grounds.
- 10.12.4 A short list of 'other developments' that may interact with the Rampion 2 ZOIs during their construction, operation or decommissioning is presented in **Appendix 5.4: Cumulative effects assessment shortlisted developments, Volume 4** and on **Figure 5.4.1, Volume 4**. This list has been generated applying criteria set out in **Chapter 5** and has been collated up to the finalisation of the PEIR through desk study, consultation and engagement. A consideration of effect-receptor pathways, data confidence and temporal and spatial scales has been given to select projects for a topic-specific short-list.
- 10.12.5 Only those developments in the short list that fall within the commercial fisheries ZOI have the potential to result in cumulative effects with the Proposed Development. All other developments falling outside the commercial fisheries ZOI are excluded from this assessment. Where the effect of other developments is already captured within the time period covered by baseline data collection, these are also excluded from CEA since their effect on commercial fisheries activity has already been captured in the baseline description presented in **Section 10.6**.
- 10.12.6 The CEA includes designated sites as a project or plan in the context of commercial fisheries, as management measures such as seasonal and/or gear exclusions implemented to protect designated features in these sites may lead to reduced access for commercial fisheries, amongst other impacts. The Marine Protected Areas (MPAs) considered in the assessment include all Special Areas of Conservation (SACs), Marine Conservation Zones (MCZs), Special Protected Areas (SPAs) and non-UK Sites of Community Importance (SCI) within the ZOI.
- 10.12.7 Other developments screened into the CEA for commercial fisheries are presented in **Table 10-15**.

Table 10-15 Developments to be considered as part of the CEA

ID (Figure 5.4.1)	Development type	Project	Status	Confidence in assessment	Tier ¹	Level of detail of CEA to be adopted
C1	Cable	Aquind (UK – France)	Proposed - Assumed offshore installation in 2022	High – Third- party project details published in the public domain and confirmed as being 'accurate' by the developer.	1	Qualitative
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	Qualitative
n/a	Designated site	Beachy Head East MCZ	Existing – confirmation of fisheries management measures is awaited	Low – management measures not yet defined	2	Qualitative
n/a	Designated site	Offshore Overfalls MCZ	Existing – confirmation of fisheries management measures is awaited	Low – management measures not yet defined	2	Qualitative

¹ Please refer to **Table 5-3** of **Chapter 5: Approach to EIA, Volume 4** for definitions of Tiers.

ID (Figure 5.4.1)	Development type	Project	Status	Confidence in assessment	Tier ¹	Level of detail of CEA to be adopted
n/a	Fisheries byelaw	Nearshore Trawling Byelaw 2019	Existing as of 22 March 2021	High – byelaw details available	1	Qualitative

- 10.12.8 Baseline data and further information on other developments will continue to be collected prior to the finalisation of the ES and iteratively fed into the assessment. An updated cumulative effects assessment will be reported in the ES.
- 10.12.9 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 10-9**) 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.
- 10.12.10 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.
- 10.12.11 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.
- 10.12.12 A description of the significance of cumulative effects upon commercial fisheries arising from each identified impact is given below.
- 10.12.13 The following table sets out the basis for the CEA relevant to commercial fisheries.

Table 10-16 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	<p>Construction phase:</p> <ul style="list-style-type: none"> Implementation of fisheries management measures in MCZs Implementation of nearshore trawling byelaw <p>Operation and Maintenance phase:</p> <ul style="list-style-type: none"> As per Construction 	Outcome of the CEA will be greatest when the greatest number of other developments are considered.
Cumulative displacement leading to gear conflict and increased fishing pressure on established fishing grounds	<p>Construction phase:</p> <ul style="list-style-type: none"> Implementation of fisheries management measures in MCZs Implementation of nearshore trawling byelaw <p>Operation and Maintenance phase:</p> <ul style="list-style-type: none"> As per Construction 	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

- 10.12.14 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.
- 10.12.15 At present, it is not known whether additional management measures for any gear interaction within the MCZs identified in **Table 10-16** 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. Ongoing consultation with the Sussex IFCA will seek to clarify and confirm likely management measures.
- 10.12.16 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.

- 10.12.17 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.
- 10.12.18 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.
- 10.12.19 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).
- 10.12.20 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.
- 10.12.21 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

- 10.12.22 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).
- 10.12.23 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.
- 10.12.24 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 10.9.66 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

- 10.12.25 The cumulative effect during operation and maintenance of projects 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 byelaw restrictions and management measures for MCZs are expected to have been established and adjusted to during the construction phase.
- 10.12.26 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.
- 10.12.27 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

- 10.12.28 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).
- 10.12.29 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.
- 10.12.30 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 states: 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: the 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 decommissioning of Rampion 2 on the same receptor, or group of receptors. Such inter-related effects include both:
- **project lifetime effects:** i.e. those arising throughout more than one phase of the project (construction, operation, and decommissioning) to interact to potentially create a more significant effect on a receptor than if just one phase were assessed in isolation; and
 - **receptor led effects:** Assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor (or group). Receptor-led effects might be short term, temporary or transient effects, or incorporate longer term effects.

Table 10-17 Inter-related effects assessment for commercial fisheries

Project phase(s)	Nature of inter-related effect	Assessment alone	Inter-related effects assessment
Proposed Development lifetime effects			
Construction, operation and, decommissioning	Reduction in access to, or exclusion from, potential and/or established fishing grounds.	Negligible to minor adverse during construction and	During construction and decommissioning phases of the project, safety zones, and therefore the areas from which commercial fishing will be excluded, will be highly

Project phase(s)	Nature of inter-related effect	Assessment alone	Inter-related effects assessment
		decommissioning phases and negligible to minor during operation and maintenance phase.	localised. While there will be a small incremental increase in the area in which fishing may be disrupted as the project is built out, as fishing activity is likely to be able to continue elsewhere during the operational and maintenance phase, effects on commercial fisheries across the phases are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.
Construction, operation and, decommissioning	Displacement from Rampion 2 leading to gear conflict and increased fishing pressure on adjacent grounds.	Minor adverse during construction and decommissioning phases and negligible to minor during operational and maintenance phase.	Fishing may be disrupted, and partial exclusion may occur during the construction and decommissioning phases of Rampion 2. However, it is anticipated that fishing will resume where productive grounds can be targeted, with the exception of safety zones around infrastructure undergoing major maintenance and advisory safe distances around vessels undertaking major maintenance activities. Also, alternate fishing grounds will be available for the fleets that operate across Rampion 2. Therefore, effects on commercial fisheries are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.
Construction, operation and, decommissioning	Displacement or disruption of commercially important fish	Negligible to minor adverse	Proposed Development lifetime inter-related effects are unlikely as the majority of disturbance (resulting in highest

Project phase(s)	Nature of inter-related effect	Assessment alone	Inter-related effects assessment
	and shellfish resources.	during all phases.	SSC/deposition) will be during the construction and decommissioning phases with minimal disturbance likely during the operation and maintenance phase. Impacts to prey species (i.e. fish and shellfish) will be at their maximum during the construction phase as a result of effects associated with underwater noise from piling, increased suspended sediments and habitat loss. Across the proposed development lifetime, the effects on commercial fisheries are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.
Construction, operation and, decommissioning	Increased vessel traffic within fishing grounds as a result of changes to shipping routes and construction vessel traffic leading to interference with fishing activity.	Negligible to minor adverse during all phases.	With the successful implementation of measures adopted for this development (i.e. issue of Notices to Mariners (NTMs), preparation of a fisheries co-existence and liaison plan, close liaison with the local vessels), no significant effects are predicted for the construction, operation and maintenance, and decommissioning phases of the project. The majority of vessel traffic (resulting in interference with fishing) is predicted to peak during construction and decommissioning with reduced potential for interference during the operation and maintenance phase. Therefore, across the proposed development lifetime, the effects on commercial fisheries are not anticipated to interact in such a way as to

Project phase(s)	Nature of inter-related effect	Assessment alone	Inter-related effects assessment
			result in combined effects of greater significance than the assessments presented for each individual phase.
Construction, operation and, decommissioning	Additional steaming to alternative fishing grounds for vessels that would otherwise be fishing in the Rampion 2 area	Negligible to minor adverse during all phases.	Any combined increase in steaming times across the construction and decommissioning phases (e.g. to avoid safety zones) will not be significant due to the limited scale and duration of safety zones. During the operation and maintenance phase, it is expected that fishing can resume across the Rampion 2 area and, as such, additional steaming will not be necessary. As such, across the proposed development lifetime, the effects on commercial fisheries are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.
Operation and decommissioning	Gear snagging and obstruction due to seabed objects within Rampion 2	Negligible to minor adverse during all phases.	Impacts due to gear snagging will occur during the operational phase due to the presence of infrastructure on the seabed. During decommissioning some of this infrastructure will be removed although some (e.g. cable and scour protection) may be left in situ following decommissioning. However, across the proposed development lifetime, the effects on commercial fisheries are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.

Project phase(s)	Nature of inter-related effect	Assessment alone	Inter-related effects assessment
Receptor-led effects			
Inter-related effect from the combination of the reduction in access to fishing grounds and the subsequent increased pressure on adjacent grounds.	During the construction and decommissioning phases, both effects will be temporary and short lived, with access to fishing grounds being prevented where construction and decommissioning activity is taking place. During operation the effects will be different depending on the receptors affected. Mobile fishing fleets may access specific grounds within the array area, or move to other fishing areas in the English Channel, which could put them into conflict with static gear (i.e. potting) fleets operating closer to shore and along the offshore cable corridor. As a result, the static fleets will be subjected to potential increases in pressure on their grounds. While the two effects may act together, it is considered that appropriately mitigated loss of access will limit the impact of displacement and that therefore, overall, any inter-related effect will not be of any greater significance than those already assessed in isolation (i.e. negligible to moderate adverse significance).		

10.15 Summary of residual effects

- 10.15.1 **Table 10-18** presents a summary of the preliminary assessment of significant impacts, any relevant embedded environmental measures and residual effects on commercial fisheries receptors.

Table 10-18 Summary of preliminary assessment of residual effects

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary 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	Potting fleet: Minor adverse (Not Significant)
			C-46	
			C-47	
			C-90	
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary 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: Negligible (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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (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	Preliminary assessment of residual effect (significance)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)
	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: Negligible (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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)
	Belgian beam trawl fleet: Minor	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: Negligible (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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (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	Preliminary assessment of residual effect (significance)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)
	Belgian beam trawl fleet: Minor	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: Negligible (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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)
	Belgian beam trawl fleet: Minor	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: Negligible (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (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	Potting fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (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: Negligible (Not Significant)
	Belgian beam trawl fleet: Minor	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: Negligible (Not Significant)
	Pelagic trawl fleet: Minor	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	Potting fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
			C-90	
	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: Negligible (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: Negligible (Not Significant)
Operation and maintenance				

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible
	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: Negligible (Not Significant)

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

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	Belgian beam trawl fleet: Minor	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: Negligible (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (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-62 C-90	Potting fleet: Negligible (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary 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: 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)
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-62 C-90	Potting fleet: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (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)
	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	Potting fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
			C-56 C-90	
	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: Negligible (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: Negligible (Not Significant)
Decommissioning				

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)
	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: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (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: Negligible (Not Significant)
	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: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)
	Belgian beam trawl fleet: Minor	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: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (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: Negligible (Not Significant)
	Belgian beam trawl fleet: Minor	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: Negligible (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	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-62 C-90	Potting fleet: Negligible (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)
	Netting fleet: Minor	Netting fleet: Low		Netting fleet: Negligible (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	Preliminary assessment of residual effect (significance)
Decommissioning activities leading to displacement or disruption of commercially important fish and shellfish resources	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Medium	See measures set out in Chapter 8: Fish and shellfish ecology	Demersal otter trawl fleet: Minor adverse (Not Significant)
	Pelagic trawl fleet: Negligible	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (Not Significant)
	Potting fleet: Minor	Potting fleet: Medium		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: Negligible (Not Significant)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)
	Belgian beam trawl fleet: Minor	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	Preliminary assessment of residual effect (significance)
	Demersal otter trawl fleet: Minor	Demersal otter trawl fleet: Low		Demersal otter trawl fleet: Negligible (Not Significant)
	Pelagic trawl fleet: Minor	Pelagic trawl fleet: Low		Pelagic trawl fleet: Negligible (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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Low		Dredging fleet: Negligible (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	Preliminary assessment of residual effect (significance)
	UK beam trawl fleet: Minor	UK beam trawl fleet: Low		UK beam trawl fleet: Negligible (Not Significant)
	Belgian beam trawl fleet: Minor	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: Negligible (Not Significant)
	Pelagic trawl fleet: Minor	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	Potting fleet: Minor adverse (Not Significant)
	Dredging fleet: Minor	Dredging fleet: Medium		Dredging fleet: Minor adverse (Not Significant)

Activity and impact	Magnitude of impact	Receptor and sensitivity or value	Embedded environmental measures	Preliminary assessment of residual effect (significance)
	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: Negligible (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: Negligible (Not Significant)

10.16 Further work to be undertaken for ES

Introduction

- 10.16.1 Further work that will be undertaken to support the commercial fisheries assessment and presented within the ES is set out below.

Baseline

- 10.16.2 Baseline data and further information on other developments will continue to be collected prior to the finalisation of the ES and iteratively fed into the assessment. Ahead of ES preparation it is expected that landings statistics data for UK-registered vessels in 2020 will become available, and these will be incorporated into an updated commercial fisheries baseline description. Additional baseline data sources may also be made available as a result of ongoing consultation; these may include updated maps of fishing effort within Sussex IFCA boundaries based on observed fishing activity during sea patrols during 2020, and data outputs from the UK Fishermen's Information Mapping Project (UKFIM) held by The Crown Estate.

Assessment

- 10.16.3 An updated main assessment and cumulative effects assessment will be reported in the ES as necessary, reflecting any additional baseline data and outcomes of ongoing consultation and engagement, in addition to any refinements in the Rampion 2 design.

Consultation and engagement

- 10.16.4 Further consultation and engagement will be undertaken to inform the ES. This will take the form of formal consultation on the PEIR and informal and ongoing consultation with commercial fisheries stakeholders, which will seek to target UK and EU fisheries associations and other industry representative groups.

Environmental measures

- 10.16.5 Further embedded environmental measures that will be considered and presented within the ES are set out in **Table 10-19**. It is intended that an Outline Fisheries Liaison and Coexistence Plan (FLCP) be prepared to support the DCO Application. As the assessment remains in its preliminary stages, it is considered more appropriate to develop the outline FLCP alongside ES preparation and following receipt of representations on the PEIR and the outcome of currently ongoing informal consultation.

Table 10-19 Further environmental measures

Receptor	Environmental measures and influence on assessment
All fishing fleets	<p>Preparation of an Outline Fisheries Liaison and Coexistence Plan</p> <p>This document will provide an outline of the approach to fisheries liaison during the construction, operation and decommissioning phases of Rampion 2.</p> <p>The outline FLCP will summarise the different fishing liaison roles proposed for Rampion 2 and their responsibilities in ensuring effective lines of communication are maintained with fisheries stakeholders.</p> <p>Potential mitigation to facilitate co-existence and avoid and reduce impacts to fisheries stakeholders will also be outlined in this document.</p> <p>The FLCP is not expected to alter the outcomes of assessment, but will formalise commitments to environmental measures and provide a document that can be progressed in discussion with the fishing industry.</p>

10.17 Glossary of terms and abbreviations

Table 10-20 Glossary of terms and abbreviations

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.
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

Term (acronym)	Definition
	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)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP).
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 potential impacts and subsequent 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').
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).
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

Term (acronym)	Definition
	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.
Offshore export cable	Cables that transfer power from the offshore substation(s) to shore.
Offshore part of the PEIR Assessment Boundary	An area that encompasses all planned offshore infrastructure and relevant buffer areas.
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 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 Environmental Impact Assessment undertaken to date for the Proposed Development. It is developed to support public consultation and presents the preliminary findings of the assessment to allow an informed view to be developed of the Proposed Development, the assessment approach that has been undertaken, draw 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.

Term (acronym)	Definition
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 pollutants which could potentially arise 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.
Significant effects	It is a requirement of the EIA Regulations 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.
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.

10.18 References

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