

Rosebank

Response to Requirement #2 (Revised and updated assessment of the likely significant effects of the project on the environment that is not limited to downstream scope 3 emissions) of the Regulation 12(1) Notice dated 21 July 2025

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1 SUMMARY

1.1 Introduction

- 1.1.1 Read together with the Rosebank ES (as defined in section 1.3 below), this document provides a revised and updated assessment of the likely significant effects of the Rosebank Development (as defined in 1.2.2 below) on the environment that is not limited to downstream scope 3 emissions. This document also provides updated information for the Rosebank ES as outlined in Schedule 6 to the Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations, 2020 and as requested in respect of Requirement #2 in OPRED's Regulation 12(1) Notice dated 21 July 2025 ("the Regulation 12(1) Notice").

1.2 Rosebank Description

- 1.2.1 The Rosebank field is located in the Faroe-Shetland Channel on the north-west edge of the UKCS approximately 130 km north-west of Shetland.
- 1.2.2 The Rosebank field will produce via subsea production well templates and flexible risers to a Floating Production, Storage and Offloading vessel (FPSO). Oil will be exported from the FPSO using tankers and gas will be exported via a new offshore gas export pipeline to tie into the West of Shetland Pipeline System at the Clair Tee junction, and then through existing infrastructure to the St Fergus Terminal. A phased development plan has been selected for the drilling and subsea, riser and flowline scope with four production wells and three water injection wells in Phase 1 and, subject to learnings from initial wells, Phase 2 will involve drilling up to a further three production and two water injection wells (the "Rosebank Development").

1.3 Rosebank Environmental Impact Assessment

- 1.3.1 An Environmental Statement ref ES/2022/001 (ES) prepared for the Rosebank Development was submitted to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) on 3rd August 2022 under The Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020 (the "Rosebank ES") reporting the results of the Environmental Impact Assessment for the Rosebank Development. The Rosebank ES scope included the assessment of likely significant effects from drilling of the Rosebank wells, the installation and commissioning of the required subsea infrastructure and gas export pipeline and the redeployment of an existing FPSO for the extraction and processing of hydrocarbons from the Rosebank Development.

1.4 Overview of this document

- 1.4.1 Following the criteria set out in 1.4.2 below, this document addresses what has changed since the Rosebank ES was submitted, re-assesses the impact of any relevant changes and re-evaluates the conclusion in the Rosebank ES on the likely significance of the effects of the Rosebank Development on the environment (not limited to downstream scope 3 emissions). Consideration of the impact on the climate of downstream scope 3 emissions from the Rosebank Development are set out separately in Response to Requirement #1 (An

assessment of the effects of downstream scope 3 emissions from the above project on climate) to the Regulation 12(1) Notice.

1.4.2 In considering what has changed since the Rosebank ES was submitted, and whether updates to the Rosebank ES are required, Equinor UK Limited has considered whether:

1.4.2.1 Relevant legislation, guidance and policy has been revised or introduced;

1.4.2.2 New and/or revised environmental baseline data has been published;

1.4.2.3 Changes have occurred in the status or timeline of the Rosebank Development and/or activities described in the Rosebank ES which have since been undertaken; and/or

1.4.2.4 Changes have occurred in Equinor UK Limited's process/procedures documented as management and mitigation measures in the Rosebank ES.

1.5 Conclusion

1.5.1 As detailed within Tables 1 to 3, following consideration of the updates outlined in 1.4.2.1– 1.4.2.4 above, the updated information does not alter the conclusions of the Rosebank ES; that the environmental impacts of the Rosebank Development arising from known and expected activities are not significant.

2 REVISED AND UPDATED ASSESSMENT

- 2.1 This section is presented in the following context:
 - 2.1.1 this document should be read together with the Rosebank ES,
 - 2.1.2 in this section, paragraph or chapter references / headings refer to those paragraphs or chapters of the Rosebank ES,
 - 2.1.3 matters described in this document represent changes to the project description or the environmental baseline in the Rosebank ES.
- 2.2 The following tables present an overview of the assessment conducted:
 - 2.2.1 Table 1 - Introductory chapters: Chapters 1-5 of the Rosebank ES describes any changes to the concept select process, the project description, and the environmental baseline information.
 - 2.2.2 Table 2 – Technical impact assessment chapters – Chapters 6-11 of the Rosebank ES describes any changes to the impact assessment and conclusion of likely significant effect as a result of any changes to the Rosebank Development e.g. activities undertaken to date, and/or environmental baseline.
 - 2.2.3 Table 3 - Supporting Documents / Appendices.

Table 1 Introductory chapters: assessment of any required updates to the Rosebank ES

Chapters 1 to 5 in the Rosebank ES (2022) present: (i) an introductory overview of the Rosebank field, Equinor, and a summary of the UK policy and regulatory context (Chapter 1), (ii) the concept select process and a project description of the development option that was progressed for execution (Chapters 2 and 3); (iii) a description of the current status of the physical environment potentially impacted (Chapter 4), and (iv) the environmental impact assessment methodology applied in the subsequent chapters (Chapter 5).

Changes to these chapters are described below (by reference to the chapter/paragraph numbering/headings in the Rosebank ES).

Chapter 1 – Introduction

The introduction chapter provides an overview of the project concept and applicable legislation. The following updates to this section were identified: -

In June 2023 Equinor UK Limited acquired Suncor Energy UK Limited and renamed this company Equinor WoS Limited. In January 2024 Equinor WoS Limited transferred its 40% licence interests in Licences P1026 Block 213/27a and 213/26b, P1191 Block 205/1a and P1272 Block 205/2a to Equinor UK Limited.

1.1 Rosebank: Equinor UK Limited and Ithaca SP E&P Limited are together known as the “Licensees”. Equinor on behalf of the P1026, P1191 and P1272 licensees, Ithaca SP E&P Limited, proposes to develop the Rosebank field (the “Development”) on the UKCS.

Full licence interests in licences P1026 Block 213/27a & 213/26b, P1191 Block 205/1a and P1272 Block 205/2a:

- Equinor UK Limited (Operator) 80%; and
- Ithaca SP E&P Limited 20%

Note:

In December 2024, Equinor UK Limited (and Equinor Production Limited) (together “Equinor”) entered into a business combination agreement with Shell U.K. Limited (“Shell”) in which Equinor and Shell agreed to combine some of their UK offshore oil and gas assets to form a new company to be called “Adura”. The transaction remains subject to necessary approvals and completion is targeted by 1 December 2025.

At the time of submission of this response to the Regulation 12(1) Notice, assets which (subject to necessary approvals) will transfer to Adura are in the process of an inter-affiliate transfer from Equinor UK Limited to Equinor SPV Limited (company number 16172712, which will be renamed Adura Operations Limited in due course). As part of this inter-affiliate transfer, Equinor UK Limited's (80%) beneficial interests in and field operatorship of Rosebank will be transferred from Equinor UK Limited to Equinor SPV Limited (company number 16172712).

On completion of the transaction, Adura Operations Limited and Ithaca SP E&P Limited will be the “Licensees”, and Adura Operations Limited would, on behalf of the other P1026, P1191 and P1272 licensees, Ithaca SP E&P Limited, develop the Rosebank field (the “Development”) on the UKCS.

Full licence interests in licences P1026 Block 213/27a & 213/26b, P1191 Block 205/1a and P1272 Block 205/2a:

- Adura Operations Limited (Operator) 80%; and
- Ithaca SP E&P Limited 20%

1.7 Overview of the Rosebank Development: The Final Investment Decision (FID) for Phase 1 was approved by the Licensees in March 2023. Phase 1 drilling is scheduled to commence in 1Q 2026.

The remainder of the project is unchanged from that described in the chapter. Except as addressed in this document, there have been no material changes to relevant policy, legislation or best practice guidance since submission of the Rosebank ES.

Chapter 2 – Consideration of Alternatives

The Consideration of Alternatives chapter outlines the decision-making processes followed to select the final project concept. The processes and project concept remain unchanged and the engineering and installation basis for the project have not changed since submission of the Rosebank ES.

Chapter 3 – Project Description

The project description chapter outlines all project activities, inclusive of all Floating Production Storage and Offloading (FPSO), pipeline, flowline and subsea infrastructure installation, and drilling campaigns. The following updates to this section were identified.

3.1 Development Overview:

Table 3-1 Rosebank phase 1 Development schedule

Activity	2024				2025				2026				2027			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Drilling																
SURF Installation																
Gas Export Pipeline Installation																
FPSO installation, hook up and commissioning																
First Production																

3.4.1 Overview:

Table 3-4 Well information, location on the templates and estimated timing of well completion

	#	Well Name	Template / Surface Location	Well Type	Estimated Year of Completion
Phase 1	1	DP1	D1	Producer	2026
	2	DP3	D3	Producer	2026
	3	CP2	C2	Producer	2026
	4	J11	J1	Injector	2027
	5	K11	K1	Injector	2027
	6	BP2	B2	Producer	2027
	7	I11	I1	Injector	2027
Drilling Break					
Phase 2	8	BP4	B4	Producer	2031
	9	MI1	M1	Injector	2031
	10	BP3	B3	Producer	2031
	11	LI1	L1	Injector	2031
	12	CP1	C1	Producer	2031

3.4.4 Well Activities: As the activities required to complete the wells and install subsea trees (Section 3.5.4 for details of the Xmas Tree) are sensitive to weather conditions, it is planned to undertake most of these in the summer period (defined as between 1st April and 30th September). Less weather sensitive operations, typically drilling operations, are planned in the winter months between October and March. The batching nature and well completion order dictates that some wells could be suspended for several months prior to being put on production.

Each well operation can be divided as follows:

- Drill 42"/36" hole section to approximately +/-70m below mud line with seawater with sweeps and displace to water-based mud (WBM) prior to running and cementing 36"/30" conductor;
- Drill 26" hole section with seawater with sweeps and displace to water-based mud prior to running and cementing 20" surface casing;
- Drill 17 1/2" hole section with water-based mud (WBM); the section is then cased-off with 13 5/8" intermediate casing;
- Drill 12 1/4" hole section with either WBM or Low Toxicity Oil Based Mud (LTOBM) and install a 10-3/4" x 9- 7/8" casing for producers and a 9-5/8" liner for the water injectors; and
- Drill 8 1/2" hole section with either WBM or LTOBM. The section is then completed with standalone screens or open-hole gravel pack for the producer wells only.

The surface hole sections will be drilled riserless. Upon installation of the high pressure housing a blowout preventer (BOP) will be installed for drilling the 17 1/2", 12 1/2" and 8 1/2" phases.

Some wells will be suspended temporarily using wellbore barriers awaiting completion and installation of the subsea Xmas Trees later in the schedule. The BOP will be disconnected to allow the MODU (Mobile Offshore Drilling Unit – a "drill rig") to move to the next well slot to perform drilling operations. This activity will be repeated until all intended wells have been drilled and suspended. The MODU will then return to previously suspended wells and the wellbore barriers will be removed before the next operation commences.

At the time of this Response, the remainder of the project activities, as outlined in the Rosebank ES and the Rosebank Field Development Plan , have not changed since the submission of the Rosebank ES.

Chapter 4 – Environmental Baseline

The Environmental Baseline in Chapter 4 of the Rosebank ES is split into three sections: Physical Environment, Biological Environment and Other Sea Users. As the baseline environmental information sets the framework against which the impacts of the Rosebank Development project are assessed, any changes to baseline data may also affect subsequent impact assessment chapters. The baseline has been reviewed to identify where datasets used to establish the environmental baseline have been renewed or updated, and if these updated data result in a change to the 2022 baseline. The review of the baseline is discussed in subsequent rows in this table.

4.2 Physical Environment:

Site-specific and publicly available data was utilised within the Rosebank ES to characterise the Physical Environment, including weather and water conditions, bathymetry, seabed sediments and features across the project area. The following updates to this section were identified.

4.2.5 Seawater Temperature and Salinity

The west of Shetland region in which the project is located lies mostly within OSPAR Region II, the Greater North Sea, which also includes the North Sea proper and its coasts. The Rosebank ES contained data from OSPAR Quality Status Report (2010) to define the sea surface temperatures and seasonal changes to sea surface salinity in the project area. Since the submission, an updated OSPAR Quality Status Report has been published (OSPAR, 2023). This reiterates that the sea surface temperature in Region II had increased by 1 to 2°C over the previous 25 years, which confirms that there has been no change to the seawater temperature and salinity baselines since submission of the Rosebank ES.

4.2.7 Seabed Sediments and Features, 4.2.7.2 Faroe-Shetland Channel Physical Environment: European standard classification system (EUNIS) data (UKSeaMap, 2021) was used to characterise the seabed sediments, habitats and species classification in the Faroe-Shetland channel, within which the project area is located. This is presented in Figure 4-6 of the Rosebank ES. The 2021 data confirmed the regional-scale information for west of Shetland, where the broad habitat type is categorised as deep-sea mud and deep-sea mixed substrata.

Since the Rosebank ES submission, UK Atlas of Seabed Habitats (UKASH) (JNCC, 2025) data have been published which provides an updated seabed habitat classification of the area. UKASH are a suite of publicly available mapping products, which provide the most complete characterisation of seabed habitats in the EUNIS. This is presented in Appendix A, Figure A-1. While the 2025 data provides an augmented dataset, it confirms that the seabed habitat remains unchanged from that described in the 2022 ED, comprising predominantly of; A5.27 Deep circalittoral sand in the east; A5.15 Deep circalittoral coarse sediment; A6.2 Deep-sea mixed strata; and A6.5 Deep-sea mud.

Equinor undertook a geophysical survey at the Rosebank field and along the gas export pipeline route in 2022 to inform engineering and installation works. The results were evaluated to interpret the seabed features and shallow geology based on the detailed layout of the planned subsea infrastructure (including anchor locations, template locations, infield flowline and umbilical routes and the gas export pipeline route). The geotechnical data confirmed the general sediment characterisation published in the EUNIS and do not materially change the baseline characterisation of seabed sediment types present in the vicinity of the Rosebank Development.

4.3 The Biological Environment:

Site-specific and publicly available data was utilised within the Rosebank ES to characterise the Biological Environment, including review of the following baseline receptors: plankton, benthos (including epifauna, habitats, and infauna), fish and shellfish, marine reptiles, birds, marine mammals, and conservation sites. The following updates to this section were identified.

4.3.2 Seabed Fauna 4.3.2.2.3 Cold water corals

The Rosebank ES did not find evidence of the protected habitat “coral gardens” based on the OSPAR¹ definition covering distribution, abundance and range. This conclusion was confirmed through re-evaluation of the video footage against the criteria contained in the Henry & Roberts interim UK technical definition for coral gardens². With respect to the criteria that:- coral garden taxa need to be dominant; characterise the community; and at least one non-reef forming coral taxon needs to be at least Frequent on the SACFOR scale³, it was observed that no relatively dense aggregations of coral taxa were identified, and that the occurrences recorded were not sufficiently dense to be considered a coral garden in terms of enhanced biodiversity, megafaunal assemblages or ecological symbioses. Four of the forty nine coral garden taxa listed in Henry & Roberts (2014) were recorded at the deeper stations during the survey (DNV, 2022). Of these four, three species (*Caryophyllia smithii*, *Pennatulacea indet.* and *Umbellula sp.*) were recorded at only one station each. *Gersemia sp.* was recorded at twenty stations. Evaluation of the complete visual data set indicated that the SACFOR score was Rare or Occasional for all stations confirming that the species density and abundances observed did not constitute evidence of coral garden habitat as defined by Henry & Roberts (2014) criteria at the surveyed locations. The conclusion stated in the Rosebank ES that no coral gardens were encountered during the gas export pipeline route survey is unchanged.

4.3.5.1 Cetaceans – whales, dolphins and porpoises: This section of the Rosebank ES presents a review of the cetacean baseline around the project area. It summarises the species present, their distribution and occurrence, and seasonality.

This section contained data from the Small Cetaceans in European Atlantic waters and the North Sea (SCANS)-III survey (Hammond *et al.* 2021) to support this review. Since the submission, the SCANS-IV survey results have been published (Gilles *et al.*, 2023). This large-scale effort builds on previous SCANS surveys (1994, 2005–2007, and 2016), providing a nearly three-decade-long dataset for assessing changes in cetacean abundance and distribution. Gilles *et al.*, (2025) presents these data at a finer resolution than the block estimates presented in Gilles *et al.*, (2023). Updated versions of Table 4-12, Figure 4-33, and 4-34 of the Rosebank ES have been provided in Appendix A, Table A-1 and Figure A-2.

Key changes to Table 4-12 include: increase to the density of harbour porpoise from 0.152 to 0.2813 animals/km², increase to the density of white-beaked dolphin from 0.021 to 0.1352 animals/km², increase to the density of minke whale from 0.010 to 0.0116 animals/km².

Harbour porpoise

The SCANS-IV survey results show that harbour porpoise was the most abundant species recorded in the vicinity of the Rosebank Development area, however the density of harbour porpoise was low-moderate in comparison to other areas of the North Sea. White-beaked dolphin was the second most abundant species in the area, but the density in the survey block is relatively low in comparison to the wider North Sea (Hammond *et al.*, 2021; Gilles *et al.*, 2023; Gillies *et al.*, 2025).

¹ [Coral Gardens | OSPAR Commission.](#)

² [Developing an interim technical definition for Coral Gardens specific for UK waters and its subsequent application to verify suspected records | JNCC Resource Hub.](#)

³ [sacfor.pdf.](#)

Risso's dolphin sightings were also recorded in Block CS-K as part of SCANS-IV. This is consistent with the Harbour porpoise baseline presented in the Rosebank ES.

Pinnipeds

Carter *et al.* (2025) presents updated seal density maps with new telemetry data for Shetland, and reflecting the latest count data. The distribution of harbour and grey seals at sea (the mean density of seals per 5 x 5 km grid) is shown in Appendix A, Figure A-2 (Carter *et al.*, 2025). While the 2025 data provides an augmented dataset, it confirms that the distribution, abundance and density of pinnipeds around the Rosebank Development area remain unchanged since the Rosebank ES.

4.3.6 Seabirds

The Rosebank ES used JNCC data (2021) data to identify seabird population trends around the project area, including a review of distribution and abundance. This identified the following key findings: seabirds in the Faroe-Shetland Channel and continental slope mainly come from the colonies in the Faroe Islands, Shetland, Orkney, Iceland, and Norway; offshore areas are too far for most seabirds during the breeding season. Seabirds are more likely to be found offshore in late summer and autumn (on passage to wintering grounds) or in spring (en route to breeding colonies); and high densities of northern fulmars (*Fulmarus glacialis*) are found along the continental slope south of 60°N and around Shetland from January to April. During the seismic survey in August 2011, seabirds observed included northern gannet (*Morus bassanus*), roseate tern (*Sterna dougallii*), Atlantic puffin (*Fratercula*), black guillemot (*Cephus grylle*), Pomarine skua (*Stercorarius pomarinus*), and long-tailed skua (*Stercorarius longicaudus*). Breeding seabird colonies in the south and south-west coast of Shetland include: northern gannets, Atlantic puffin and great skua (*Stercorarius skua*). The Rosebank ES identified that the following seabird species in the Rosebank field area have experienced significant population decline since 2000: Arctic skua (*Stercorarius parasiticus*) (70% decline); northern fulmar (33% decline); Black-legged kittiwake (*Rissa tridactyla*) (29% decline); and Arctic tern (*Sterna paradisaea*) (5% decline).

Since the Rosebank ES, a number of updated datasets and reports on seabird counts (JNCC, 2023) and status of breeding seabirds in the UK (JNCC, 2024) have been published. The key change since the Rosebank ES is the outbreak of the Highly Pathogenic Avian Influenza (HPAI) H5N1 strain, which has affected UK wild bird populations significantly since it was first recorded in summer 2021. In terms of the key species identified around the Rosebank project area during the 2011 seismic surveys, northern gannet, roseate tern, and great skua have experienced high mortality and declining population as a result of the HPAI outbreak (Tremlett, Morley and Wilson, 2024). This has resulted in Arctic skua being added to the Birds of Conservation Concern (BoCC) Red List of conservation concern. Roseate tern was already on the BoCC Red List and more evidence is required to assess the HPAI impacts on the Northern Gannet (Stanbury *et al.*, 2024). Atlantic puffin are recorded to have experienced low mortality from HPAI. Black guillemot have no mortality from HPAI recorded (however it should be noted that black guillemot are burrow nesters and therefore counts have particularly low accuracy and precision) (Tremlett, Morley and Wilson, 2024).

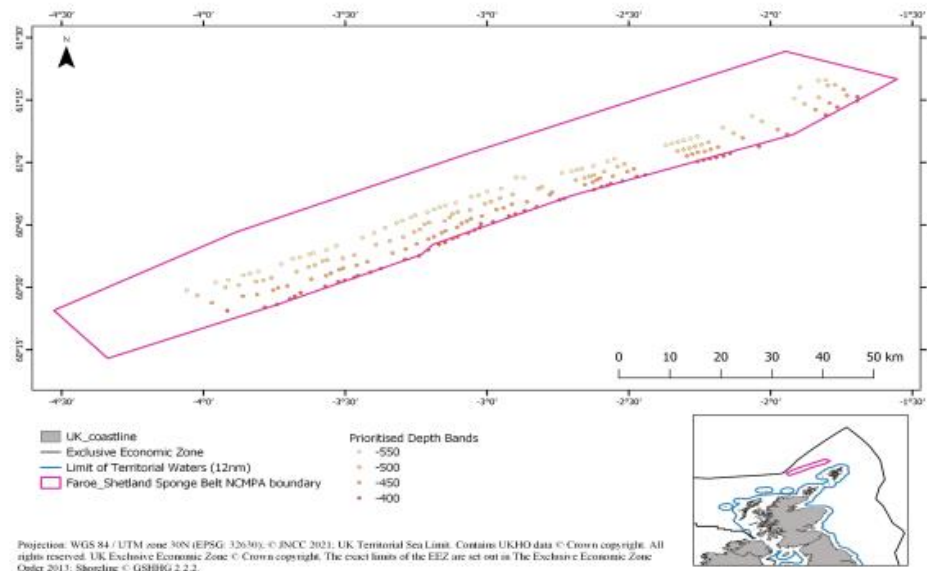
4.4 Conservation 4.4.1.2 Habitats: This section of the Rosebank ES provides details of the protected sites to the west of Shetland which may have connectivity with the project area. No new sites have been designated since the 2022 submission, and this review considered updates for sites already assessed. A review of the existing sites identified in the Rosebank ES identified no material changes since 2022 to the status, conservation objectives or conservation interests of the following sites:

- Seas off Foula Special Protection Area (SPA)
- North-East Faroe-Shetland Channel Nature Conservation Marine Protected Area (NCMPA)
- Faroe-Shetland Sponge Belt NCMPA
- West Shetland Shelf NCMPA
- North-west Orkney NCMPA
- Foula SPA
- East Mainland Coast proposed SPA (pSPA)
- Fetlar to Haroldswick NCMPA
- Mousa to Boddam NCMPA
- East Sanday Coast Ramsar

The following additional information available for the Faroe-Shetland Sponge Belt (FSSB) is included in the environmental baseline. A seabed monitoring survey was carried out by the JNCC and Marine Scotland Science (MSS) in August and September 2021⁴ to acquire a robust initial monitoring dataset as a baseline for the development of a monitoring time-series for the FSSB. The intention would be that future survey data can be compared with the baseline to assess the long-term variability in the condition of the MPA features and evaluate the effectiveness of any management measures implemented. Sampling stations prioritised four depth bands between 400 – 550 metre water depth: planned sampling stations along 4 depth bands are indicated in the figure below. The cruise report is available (Tangye *et al.* 2022), however, the final JNCC/ MSS survey report has not yet been published. However, the habitat assessment (DNV, 2022) and the sampling strategy for the JNCC / MSS S1121 survey (Figure below) correspond with the data available on the JNCC MPA Mapper (Fig 4-38 in the Rosebank ES). The JNCC interpretation of sponge distribution in the Faroe-Shetland Channel area (JNCC, 2014⁵) shows deep sea sponge aggregations (DSSA) centred around the 500 m isobaths. Henry & Roberts (2014) state that sponge grounds occur in a particularly narrow ‘sponge belt’ centred around the 500 m isobath.

⁴ [Faroe-Shetland Sponge Belt MPA Survey Report \(1121S\) | JNCC Resource Hub.](#)

⁵ [Faroe-Shetland Sponge Belt MPA – Relevant Documentation | JNCC Resource Hub.](#)



The JNCC's published conservation advice⁶ on the FSSB includes supplementary advice on the ecological characteristics ("attributes") of the site's protected features and the conservation objective for each of these attributes – extent and distribution, structure and function, and supporting processes. The JNCC advice for the FSSB states that protected features of the site should be recovered to favourable condition. The JNCC recommend that activities should look to minimise, as far as is practicable, further removal, dislodgement or injury of sponges within the potential extent of DSSA within the site and avoid, as far as is practicable, exceeding Environmental Quality Standards and the disruption, obstruction or removal or iceberg plough mark fields (which are supporting habitat for DSSA). This advice has not changed compared to the information presented in the Rosebank ES. It is therefore concluded that there is no further update required in relation to the Habitats baseline provided in the Rosebank ES which remains valid

4.4.1.3 Species No changes to the species protected under the Habitats Directive, identified as Priority Marine Features (Scottish Ministers, 2014), or endangered species on the IUCN (International Union for Conservation of Nature) Red List (2025) have been identified.

4.5.1.1 Fishing Effort: This section of the Rosebank ES uses Vessel Monitoring System (VMS) data from 2015-2019 and Marine Scotland fisheries effort statistics from 2016-2020 (Scottish Government, 2018; Scottish Government, 2020) to establish a baseline of commercial fisheries activity in the project area. Since the

⁶ [Faroe-Shetland Sponge Belt MPA | JNCC - Adviser to Government on Nature Conservation.](#)

submission, an updated commercial fisheries data set from 2018-2022 has been published by Marine Directorate (2024a). This dataset provides detailed information on the fishing effort, tonnage and value of landings, fishing vessel characteristics and employment between 2018-2022.

Appendix A, Table A-2 of this Response provides an update to Table 4-16, Appendix A, Table A-3 of this Response provides an update to Table 4-17, and Appendix A, Figure A-3 of this Response provides an update to Figure 4-39 in the Rosebank ES.

This updated data maintains that for the two ICES rectangles within which the project is located (50E6 and 50E7), fishing effort is highest in 50E7. Vessels within rectangle 50E6 only contributed 0.1% to the Scottish total fishing effort in 2023 (Marine Directorate, 2024a), which remains as was in 2022. Overall effort within rectangle 50E7 contributed approximately 0.3% to the total annual Scottish fishing effort in 2023 (Marine Directorate, 2024a). Fishing effort in 50E6 was highest for trawls and hooks and lines between 2019 and 2022. These statements were made in the Rosebank ES and remain valid based on the Marine Directorate (2024a) data. Fishing effort by vessels > 10 m using demersal active gear increased from 19 to 47 days in 2016-2020, to 19 to 50 days between 2019-2022. Effort by pelagic vessels was disclosive during both periods, indicating that trawl effort during both periods was predominantly conducted by demersal trawls. This same statement applies to ICES rectangle 50E7. Fishing effort in 50E6 by > 10 m vessels operating passive gear ranged from 20 to 75 days between 2016 and 2020, and remained in this range between 2019-2022.

In the period 2019-2022, demersal fishing effort in ICES rectangle 50E7 was comparatively higher than ICES rectangle 50E6, ranging from 194 days and 332 days. The fishing effort for ICES rectangle 50E7 is considered to be low when compared to all ICES rectangles in Scottish waters. Fishing effort by > 10 m vessels operating passive gear ranged from 41 to 233 days between 2019 and 2022, which is an increase from 2016-2022 (24 days to 127 days).

Recent VMS fishing intensity data across Scottish waters indicates that the primary fishing method in the Rosebank area is bottom trawling; between 2010 and 2020, > 2 weeks (336 hours) of fishing effort is associated with areas along the continental shelf through which the gas export pipeline will pass (NMPI, 2025). This is unchanged from the Rosebank ES.

The Rosebank ES presented VMS data for UK vessels greater than 15 m in length operating mobile gear between 2016 and 2019, which indicated that mobile fishing within the Rosebank infield area is low, with higher levels of effort towards the east of the Rosebank to Clair Tee pipeline in ICES rectangle 50E7. This remains valid at the time of this review based on data from Marine Directorate (2024a).

4.5.1.2 Catch Tonnage: this section provides a review of the landings data in tonnage from 2016 and 2020, based on NMPI (2022) and Scottish Government (2021) data. Since the submission, the Marine Directorate (2024a) landings data from 2019-2023 are available. An updated Table 4-16 is provided in Appendix A, Table A-2 of this Response, based on Marine Directorate (2024a).

ICES rectangle 50E6 remains dominated by demersal fishing catch. Between 2019 and 2023, the catch for pelagic and shellfish fisheries was <1 tonne per annum (Marine Directorate, 2024a). This was the same for 2016-2020. The catch in ICES rectangle 50E7 was markedly higher than ICES rectangle 50E6 in both periods.

4.5.1.3 Landings Value:

In both periods, demersal fish were dominant in terms of landings value for 50E6; contributing to 100% of the landings values in 2019, 2020, and 2022, and 99% in 2021 and 2023. Greenland halibut, hake, ling, monks, anglers, saithe dominated the landings; with between 79-86% of the landings between 2016-2022, and 57%-86% of the landings between 2021-2023 (Marine Directorate, 2024a).

In ICES rectangle 50E7, demersal fish dominated the landings between 2016-2018, and pelagic fish dominated the landings between in 2019 and 2020. Based on Marine Directorate (2024a), this is unchanged; Demersal fish was dominant in terms of landings values in 2018, 2021, and 2022. Pelagic fish dominated landings values in 2019 and 2020. Demersal fish accounted for 72% of landings between 2016-2020, and 70% between 2018-2022. Mackerel was dominant with saithe, monkfish / anglerfish in 2019, accounting for 74% of landings. The same finding applies to the (Marine Directorate, 2024a) dataset; mackerel and saithe accounted for 49%, 58%, and 62% of the landings in 2021, 2022 and 2023 respectively.

Chapter 5 – Environmental Impact Assessment (EIA) Methodology

This chapter presents an overview of the assessment methodology used to identify the project's potential to result in a significant effect on physical, biological and human receptors. The methodology described is widely applied in EIA for offshore projects and remains the same, unchanged.

Table 2 Technical chapters 6-11

Summary of review of changes

Chapters 6-11 of the Rosebank ES assess the potential impacts of the proposed Rosebank Development on the environment from physical presence (including other anthropogenic users of the sea), discharges to sea, emissions to atmosphere (other than downstream scope 3 GHG emissions), noise disturbance, and accidental events.

Each impact assessment chapter in the Rosebank ES is considered below. Since publication of the Rosebank ES in 2022, subsea infrastructure (detailed below) has been installed on the seabed. This infrastructure and the impact on seabed sediments and benthic habitats was described in Chapter 6 of the Rosebank ES – Seabed Impacts - and the main update to the information presented in the Rosebank ES is contained in this Chapter.

Chapter 6 – Seabed Impacts

The subsea pipelines infrastructure listed in Table 6-1 of Chapter 6⁷ has been installed during SURF campaigns during 2024 and 2025 under the Pipeline Works Authorisation PA/5234. Applications for a screening direction under the Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020 and consent to locate under Part 4a of the Energy Act 2008 under Pipeline Application PLA/1126 to cover these works were submitted and approved.

The works included pipeline route preparation activities including seabed survey and boulder relocation (boulders > 0.3m in the pipeline installation corridor), installation of concrete mattresses at cable / pipeline crossing points and trenching and /or subsea rock installation (SRI) for gas export pipeline protection in water depths less than 800 metres. The pipeline route preparation activities commenced in 2024 under Marine Licence issued under the Marine and Coastal Access Act 2009. In addition, mooring suction anchor piles have been installed and mooring lines are being wet stored under a consent to locate submitted under Production Application PRA/325.

None of the changes or updates to the project description, baseline environment, regulations or mitigation and control measures have been identified as altering the assessment set out in the Rosebank ES, and the conclusion in the Rosebank ES that the impact of subsea installation activities will not be significant is unchanged.

6.4.2 Potential Seabed and Habitat Impacts, including on Protected Sites

Table 6-2 of the Rosebank ES summarised the potential seabed footprint of the infield infrastructure that has been installed in 2024 / 2025. The table below compares the seabed area footprint of the installed infrastructure covered by PWA/5234 with the seabed area estimated in the Rosebank ES.

⁷ Apart from: 2 no. water injection satellite foundations, water injection flowlines which are associated with phase 2 of the development.

Infield subsea infrastructure	Seabed Area estimated in Rosebank ES (m ²)	Seabed Area in PLA/1126 (m ²)	Reason for difference
3 x Foundation Template Structures (B, C and D).	1,320	1,211	Slightly smaller footprint per template
3 x Foundation Satellite Structures (I, J and K)	980	471.6	Dimensions reduced and 3 (out of a total 5) installed for phase 1
6 Riser Hold Back Suction Anchors	117.75	142.45	Diameter increased
6 Riser Hold Down Suction Anchors	117.75	117.75	n/a
Umbilical Riser Base	144	73	Smaller footprint
Rigid water injection pipeline	4860	4528	Shorter pipeline
Water injection flexibles	3890	1711	3 of the 5 flexibles installed for phase 1
Water injection PLET	12	12	n/a
Water injection PLEM	24	24	n/a
Water injection in-line tees	54	36	2 out of 3 installed for phase 1
Gas lift flowline	2349	4266	Increased outer diameter for gas lift pipeline specification and longer flowline
Gas Riser Base	63	110	Larger footprint
Production flowlines	9016	8114	Shorter flowlines
Production umbilicals	1665	1555	Shorter umbilicals
Water Injection umbilicals	3161	2013	3 of 5 WI umbilicals installed in phase 1
SSIV control umbilical	114	125	Slightly larger dimensions
Mattresses	2592	1440	Optimised used of mattresses for cable crossings.

In addition the PWA included provision for the use of 6000 tonnes of rock to stabilise the rigid water injection pipeline. However buckle mitigation sleepers were installed as a substitute for rock, minimising the seabed footprint of the infield infrastructure.

Various installation aids, for example, turning bollards, clump weights, installation guide markers, tool baskets, were temporarily placed on the seabed during installation operations.

The Rosebank gas export pipeline was installed in 2025 and is protected from over-trawl hazards by a combination of trenching and burial, post lay rock installation, or a combination, in water depth less than 800 metres. The PWA application includes allowance for up to 315,000 tonnes of rock compared with the worst case scenario requirement for rock protection and stabilisation of 400,000m³ (equivalent to approximately 600,000 tonnes) assessed at the time of the Rosebank ES. Although the number of concrete mattresses required at the Clair spool increased from six to eighteen, the overall area of seabed potentially impacted by installation of the gas export pipeline was reduced from approximately 0.61 km² (Table 6-4 of the Rosebank ES) to 0.37km² in PLA/1126.

Further assessment of the impact of installing the gas export pipeline on the conservation objectives of the FSSB was carried out in PLA/1126 and summarised here as relevant information for the update. Table 6-5 in the Rosebank ES highlights the sensitivities of key features of Faroe-Shetland Sponge Belt NCMPA based on FeAST⁸. This summarises sensitivity to sub-surface abrasion/penetration, physical removal, and physical change to the seabed. An update to the FeAST sensitivities for NCMPA Qualifying Features are presented in Appendix A, Table A-4 of this Response. The sensitivity of deep-sea sponge aggregations to heavy and light siltation was described in the Rosebank ES as 'highly sensitive' and there is no change to the sensitivity according to FeAST which would materially change the impact assessment of pipeline installation within the FSSB.

The FSSB is designated for the presence of deep-sea sponge aggregations (DSSA) and offshore subtidal sands and gravels habitats; ocean quahog species aggregations; and geomorphological features comprising continental slope channels, iceberg ploughmarks, prograding wedges and slide deposits sand and sediment wave fields. As discussed in the Rosebank ES, DSSA were potentially identified at two environmental survey stations located along the gas export pipeline corridor. An assessment of whether the pipeline installation might be capable of affecting (other than insignificantly) either (i) the protected features of the MPA; or (ii) any ecological or geomorphological process on which the conservation feature of the MPA is (wholly or in part) dependant, was carried out to assess whether these activities would or might significantly hinder the achievement of the conservation objectives of the MPA. The methodology for assessing the environmental impact on the MPA in terms of risk and magnitude referenced Marine Management Organisation guidance on Marine Conservation Zones⁹ and marine licensing¹⁰ (MMO, 2013)¹¹ and the MCZ/MPA Assessment for the 33rd Seaward Round of Offshore Oil and Gas Licensing (DESNZ, 2023)¹². In determining significance, the assessment considers the likelihood of an activity causing an effect, the magnitude of the effect, and the potential risk any such effect may cause on either the protected feature or process on which the feature depends to determine whether there is a significant risk of the activity hindering the achievement of the conservation objectives stated for the MPA.

Survey observations and the environmental literature (records collated by the JNCC (2014)) indicate that deep sea sponge aggregations are mainly centred along the 500m bathymetric contour of the eastern flank of the channel) corresponding to the survey observations (DNV, 2022) and the baseline information indicate that sponge aggregations are most likely to occur in water depths between 450 to 550 metres. The assessment refined the area of the MPA potentially (a) impacted by pipeline installation operations and (b) where sponge aggregations are most likely to be encountered to a 10km section between KP40 and KP50, estimated to represent

⁸ [Feature Activity Sensitivity Tool \(FeAST\) | NatureScot](#).

⁹ MPA is the equivalent designation in Scottish waters.

¹⁰ "marine licensing" in this context refers to the MMO licensing duties under the MCAA 2009 and not the NSTA's oil and gas licensing system.

¹¹ MMO, 2013. Marine Conservation Zones and marine licensing, Marine Management Organisation, April 2013.

¹² DESNZ, 2023. Offshore Oil & Gas Licensing 33rd Seaward Licensing Round MCZ/MPA, Department of Energy Security and Net Zero, July 2023.

approximately 0.001% of the total MPA area. This represents a very small spatial footprint when the impact is considered discretely and incrementally with other activities that may be undertaken within the MPA boundary and the risk of this activity hindering the conservation objectives is considered to be low. The mitigation measures described in section 6.7 were followed during the 2024 and 2025 campaigns with a compact subsea design layout, optimisation of mattress deployment, and volumes of rock protection minimised through pipeline route planning and alternative stabilisation technologies (sleepers). The updated assessment does not change the conclusion in the Rosebank ES that the impact of installing the gas export pipeline is not significant and that there was unlikely to be a significant risk of hindering the conservation objectives of the FSSB NCMPA. The conclusion in the Rosebank ES that the consequence of effects from installation of infield infrastructure and the gas export pipeline will not be significant is unchanged.

The updated information for the DSSA and the FSSB considered in the assessment for the installation of the subsea infrastructure in the subsequent environmental applications does not alter the assessment set out in the Rosebank ES, and the conclusion in the Rosebank ES that the impact of subsea installation activities will not be significant is unchanged.

Chapter 7 – Discharges to Sea

This chapter assesses the impact of discharges to sea during drilling operations, subsea infrastructure installation activities, and during the production phase and cuttings. No drilling operations have taken place and the production phase start date is planned from Q4 2026/Q1 2027. Therefore, the review of this chapter focussed on section 7.6.2 – Installation and commissioning on subsea infrastructure. Chemical products are used to flush and clean the flowlines and carry out leak and pressure tests and preservation chemicals are dosed into the lines to ensure materials integrity. All chemicals used during the subsea infrastructure installation campaign were fully risk assessed and included in an approved chemical permit application issued under the Offshore Chemical Regulations 2002 (as amended).

None of the changes or updates to the project description, baseline environment, regulations or mitigation and control measures have been identified as altering the assessment set out in the Rosebank ES, and the conclusion in the Rosebank ES that the impact of discharges to sea will not be significant is unchanged.

Chapter 8 – Other Sea Users

This chapter addresses the impact of the Rosebank Development on other sea users during drilling operations, installation and operation of subsea infrastructure including the gas export pipeline, and the physical presence of the FPSO in the Rosebank field. The subsea infrastructure was installed in 2024 and 2025. A Vessel Traffic Survey was carried out prior to operations commencing and vessel density was found to be low around the Rosebank field, becoming more frequent in the shallower waters around the Clair Tee tie in point of the gas export pipeline. A Consent to Locate application was submitted to cover the installation of the subsea infrastructure and an Offshore Development Area has been created in the Rosebank Development location for the duration of construction operations. Information about construction activities and subsea infrastructure locations have been communicated to other sea users via the appropriate channels (for example notifications to the UK Hydrographic office, notices published in the Kingfisher Bulletin).

The gas export pipeline is protected through a combination of trenching and burial, and over-trawlable rock cover to mitigate against snagging risk. Overall, the installation campaign carried out to date has followed the management and mitigation measures laid out in section 8.4.

. None of the changes or updates to the project description, baseline environment, regulations or mitigation and control measures have been identified as altering the assessment set out in the Rosebank ES, and the conclusion in the Rosebank ES that the impact of offshore activities on other users of the sea will not be significant is unchanged.

Chapter 9 – Atmospherics and Climate (excluding Downstream Scope 3 Emissions)

This chapter addresses the impact of the atmospheric emissions from fuel consumption in installation vessels, support vessels, supply vessels, the drill rig, the FPSO plus emissions from flaring and venting during operations. The subsea installation campaign has deployed a range of heavy-duty marine vessels for pipelay and flowline installation, heavy overboard lifts of manifolds and suction anchors, jet trenching and subsea rock installation plus support and guard vessels. The fuel use and emissions estimates presented in the Rosebank ES were done before the subsea installation contract was awarded and detailed planning for the campaign had been carried out. The fuel use estimates were based on standard fuel consumption information for generic vessel types. The construction schedule and the exact vessel requirements and specifications required for the operations West of Shetland have been refined over time. All the construction and installation vessels contracted during the proposed campaign operate according to a Ship Energy Efficiency Management System (SEEMP) and fuel use is monitored according to vessel operations and transit speeds by the contractor.

Any potential amendments to the assumptions made in the Rosebank ES with regard to MODU fuel use and drilling days will be presented in future drilling applications under Regulation 6 of the Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020.

None of the changes or updates to the project description, baseline environment, regulations or mitigation and control measures have been identified as altering the assessment set out in the Rosebank ES, and the conclusion in the Rosebank ES that the impact of atmospheric emissions (excluding downstream Scope 3 emissions which are assessed separately) will not be significant is unchanged.

Chapter 10 – Underwater Noise

This chapter assesses the impact of noise from the Rosebank Development activities in the marine environment. The main activities associated with noise generation assessed in this chapter are Vertical Seismic Profiling surveys, FPSO and MODU thrusters, acoustic beacons used to maintain position during drilling operations, helicopter flights during drilling and production operations.

None of the changes or updates to the project description, baseline environment, regulations or mitigation and control measures have been identified as altering the assessment set out in the Rosebank ES, and the conclusion in the Rosebank ES that the impact on marine species from increased noise levels in the marine environment will not be significant is unchanged.

Chapter 11 – Accidental Events

This chapter assessed the impact of the accidental events including the worst case well blow out scenario. The modelling scenario parameters are the same and the updates to the environmental baseline information (for example, the updated information about seabirds, marine mammals, fisheries, and protected sites and habitats) do not alter the assessment of potential environmental effect are not considered to change the conclusion of the assessment in the Rosebank ES that a worst case blow out release would have a major consequence however, the probability of this occurring is very remote.

None of the changes or updates to the project description, baseline environment, regulations or mitigation and control measures have been identified as altering the assessment set out in the Rosebank ES, and the conclusion in the Rosebank ES that the impact of an accidental release is not significant is unchanged because although the consequences of an oil spill are major, the probability of a large scale release event, such as that assessed in Chapter 11, is very low.

Chapter 12 – Equinor Environmental Management System

This chapter of the Rosebank ES outlines Equinor's approach to managing execution and operation of the Rosebank Development, including processes and measures for safety and environmental protection, environmental monitoring, and contractor management. Equinor keep the commitments set out in the Rosebank ES (Appendix C – see Table 3) in a managed register and undertake regular reviews to monitor progress and manage implementation. No internal controls, procedures, or the approach to managing mitigation measures have changed – other than routine audit updates - since the submission of the Rosebank ES in 2022 and none of the changes or updates to the project description, baseline environment, regulations, or mitigation and control measures have been identified as altering the management system approach set out in the Rosebank ES.

Chapter 13 – Conclusions

None of the changes or updates to the project description, baseline environment, regulations or mitigation and control measures have been identified as altering the assessment set out in the Rosebank ES, and the conclusion in the Rosebank ES that the EIA described in the Rosebank ES demonstrates that, with the proposed mitigation measures in place, the Rosebank Development is not expected to have a significant effect on the environment is unchanged.

Table 3 Appendices to the Rosebank ES

Appendix reference in the Rosebank ES, ref: ES/2022/001 and summary of review
Appendix A: Alignment Between the Rosebank Development and the Scottish National Marine Plan This Appendix of the Rosebank ES presents how the project complies with the respective objectives and policies in the Scottish National Marine Plan (Scottish Government, 2015). There has been no published update to the Scotland's National Marine Plan (SNMP) since the submission of the Rosebank ES. Therefore, the alignment of the Rosebank Development with the SNMP, as conducted for the Rosebank ES, remains valid at the time of this review (2025).
Appendix B: Response to Comments Received from Stakeholders Appendix B of the ES provides a summary of the pre-application stakeholder consultation undertaken prior to preparation and submission of the Rosebank ES in 2022. There has been no further pre-application stakeholder consultation undertaken for this Assessment.
Appendix C: Commitments Register This Appendix of the Rosebank ES presents the mitigation measures and management actions committed to by the Rosebank Development. No additional mitigation measures or monitoring requirements have been identified during the review (2025)

3 CONCLUSION

- 3.1.1 A review of changes since the Rosebank ES was submitted has been conducted. That review has followed the criteria set out in 1.4.2 (above). Where changes may have occurred requiring an update to the assessment documented within the Rosebank ES and any resulting amendments to the conclusions on the likely significance of the effects of the Rosebank Development on the environment, they have been described in section 2 of this document.
- 3.1.2 Following that review, Equinor considers that the overall assessment of the environmental impacts of the Rosebank Development as described in the Rosebank ES remains unchanged and the Rosebank Development is not expected to have a significant effect on the environment.

4 REFERENCES

- Department for Business, Energy & Industrial Strategy (BEIS) (2023) 33rd Seaward Licensing Round: Marine Conservation Zone/Marine Protected Area Assessment Report. Department for Business, Energy & Industrial Strategy. Available at: https://assets.publishing.service.gov.uk/media/64c77b5ff92186000d8667b6/33R_Round_MCZ_MPA_Assessment_Report.pdf
- Carter, M. I. D, Bivins, M., Duck, C. D., Hastie, G. D., Morris, C. D., Moss, S. E. W., Thompson, D., Thompson, P. M., Vincent, C., Russell, D. J. F. (2025) Updated habitat-based at-sea distribution maps for harbour and grey seals in Scotland. Sea Mammal Research Unit, University of St Andrews, Commissioned Report to Scottish Government. at: <https://www.abdn.ac.uk/media/site/sbs/documents/Carter-et-al-2025-Scottish-Govt-Report.pdf>
- DESNZ (2024). Environmental Impact Assessment (EIA) – Assessing effects of scope 3 emissions on climate. Consultation on draft supplementary guidance for assessing the effects of scope 3 emissions on climate from offshore oil and gas projects. Available at: https://assets.publishing.service.gov.uk/media/672241763ce5634f5f6ef547/Consultation_document_on_supplementary_EIA_guidance_-_Effects_of_Scope_3_emissions.pdf
- Gilles, A, Authier, M, Ramirez-Martinez, NC, Araújo, H, Blanchard, A, Carlström, J, Eira, C, Dorémus, G, Fernández-Maldonado, C, Geelhoed, SCV, Kyhn, L, Laran, S, Nachtsheim, D, Panigada, S, Pigeault, R, Sequeira, M, Sveegaard, S, Taylor, NL, Owen, K, Saavedra, C, Vázquez-Bonales, JA, Unger, B, Hammond, PS (2023). Estimates of cetacean abundance in European Atlantic waters in summer 2022 from the SCANS-IV aerial and shipboard surveys. Final report published 29 September 2023. 64. Available at: https://www.tiho-hannover.de/fileadmin/57_79_terr_aqua_Wildtierforschung/79_Buesum/downloads/Berichte/20230928_SCANS-IV_Report_FINAL.pdf
- Gilles, A, Authier, M, Pigeault, R, Ramirez-Martinez, NC, Benoit, V, Carlström, J, Eira, C, Geelhoed, SCV, Laran, S, Sequeira, M, Sveegaard, S, Taylor, NL, Saavedra, C, Vazquez-Bonales, JA, Hammond, PS (2025). Spatial models of cetacean density in European Atlantic waters based on SCANS-IV summer 2022 survey data. Final report published 14 May 2025. 31 pp plus Appendix. <https://tinyurl.com/3rv246v5>
- Hammond, P.S., Lacey, C., Gilles, A., Viquerat, S., Börjesson, P., Herr, H., Macleod, K., Ridoux, V., Santos, M.B., Scheidat, M., Teilmann, J., Vingada, J., and Øien, N. (2021). Estimates of cetacean abundance in European Atlantic waters in summer 2016 from the SCANS-III aerial and shipboard surveys. June 2021.
- JNCC (2019). Seabird Oil Sensitivity Index. Available at: <https://jncc.gov.uk/our-work/seabird-oil-sensitivity-index-sosi/>
- JNCC (2021). Seabird Population Trends and Causes of Change: 1986–2019 Report. Available at: <https://jncc.gov.uk/our-work/smp-report-1986-2019/>. Joint Nature Conservation Committee, Peterborough. Updated 10 March 2020.
- JNCC (2023). Seabirds Count – the fourth Breeding Seabird Census. Available at: <https://jncc.gov.uk/our-work/seabirds-count/#results>
- JNCC (2024). Birds of Conservation Concern 5 breeding seabird updated. Available at: <https://jncc.gov.uk/news/birds-of-conservation-concern-5-breeding-seabird-update/>

JNCC (2025). UK Atlas of Seabed Habitats (UKASH). Available at: <https://jncc.gov.uk/our-work/uk-atlas-of-seabed-habitats-ukash/>

Marine Directorate (2024a). Scottish Sea Fisheries Statistics 2023. Available at: <https://www.gov.scot/publications/scottish-sea-fisheries-statistics-2023/documents/>

NMPi (2025). The Scottish Government National Marine Plan Interactive. Available at: <https://marinescotland.atkinsgeospatial.com/NMPi/>

NSTA (2024). OGA Plan to reduce UKCS greenhouse gas emissions. Available at <https://www.nstauthority.co.uk/regulatory-information/regulatory-framework/the-oga-strategy/oga-plan-emissions-reduction/>

OSPAR (2010). Quality Status report 2010. OSPAR Commission, London, Page 176.

OSPAR Commission (2023) Climate Change. In: Quality Status Report 2023 – Thematic Assessments: Pelagic Habitats. Available at: <https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/thematic-assessments/pelagic-habitats/climate-change/>

Scottish Government (2015). Scotland's National Marine Plan – A Single Framework for Managing Our Seas. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2015/03/scotlands-national-marine-plan/documents/00475466-pdf/00475466-pdf/govscot%3Adocument/00475466.pdf>

Scottish Government (2020). 2019 Scottish Sea Fisheries Statistics - Fishing Effort and Quantity and Value of Landings by ICES Rectangle. Available at: <https://data.marine.gov.scot/dataset/2019-scottish-sea-fisheries-statistics-fishing-effort-and-quantity-and-value-landings-ices>.

Scottish Government (2021). Scottish Sea Fisheries Statistics 2020. Available at: <https://www.gov.scot/publications/scottish-sea-fisheries-statistics-2020/pages/10/>

Stanbury, A. J., Fiona Burns, Nicholas J. Aebischer, Helen Baker, Dawn E. Balmer, Andy Brown, Tim Dunn, Patrick Lindley, Matthew Murphy, David G. Noble, Ronan Owens and Lucy Quinn (2024). The status of the UK's breeding seabirds: an addendum to the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. Available at: https://britishbirds.co.uk/sites/default/files/2024-09/Seabird-BoCC_British-Birds_September-2024.pdf

Tangye, T., Albrecht, J. & Stirling, D. (2022). Faroe-Shetland Sponge Belt MPA Survey Report (1121S). JNCC-MSS Partnership Report No. 8. JNCC, Peterborough, ISSN 2634-2081.

Tremlett, C.J., Morley, N., and Wilson, L.J. (2024). UK seabird colony counts in 2023 following the 2021-22 outbreak of Highly Pathogenic Avian Influenza. RSPB Research Report 76. RSPB Centre for Conservation Science, RSPB, The Lodge, Sandy, Bedfordshire, SG19 2DL.

UKSeaMap (2021). Available at: <https://www.emodnet-seabedhabitats.eu/access-data/launch-map-viewer/?zoom=3¢er=-15.000,51.600&layerIds=1130&baseLayerId=-3&activeFilters=>

APPENDIX A - UPDATED FIGURES AND TABLES

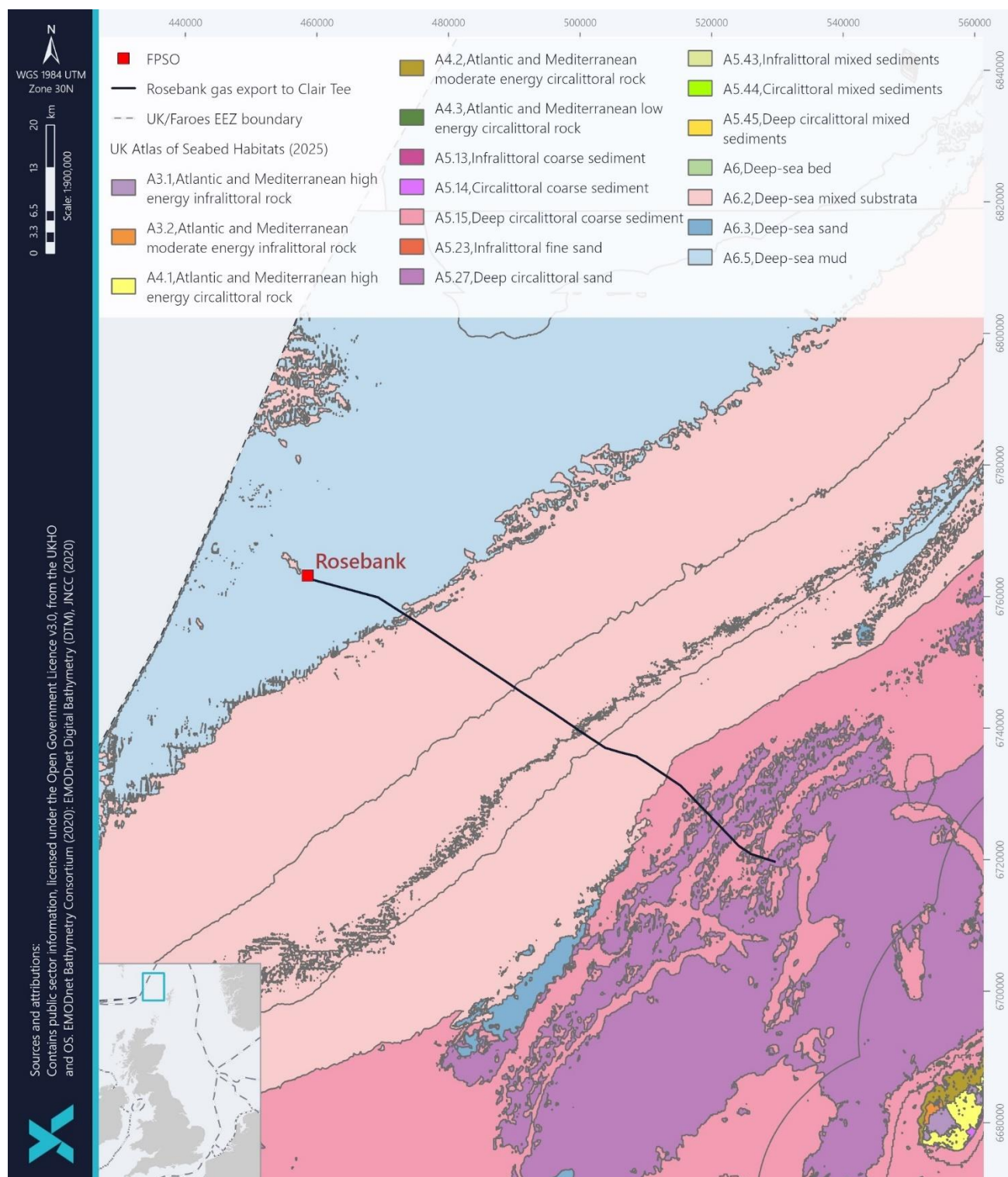


Figure A-1 EUNIS seabed habitat classification in the region of the Rosebank project (JNCC, 2025)

Table A-1 Cetacean density (animals/km²) estimates in the project area (Gilles *et al.*, 2023 and 2025; JNCC, 2017)

SPECIES	SCANS-IV CETACEAN DENSITIES AROUND ROSEBANK FPSO AND ALONG THE PIPELINE LYING ON THE CONTINENTAL SLOPE (ANIMALS/KM²)	JCP CETACEAN DENSITIES AT THE ROSEBANK FPSO AND ALONG THE PIPELINE LYING ON THE CONTINENTAL SLOPE (ANIMALS/KM²)
Harbour porpoise	0.2813	0-0.001
Bottlenose dolphin	0.004*	0-0.001
White-beaked dolphin	0.1352	0-0.002
White-sided dolphin	No sighting ⁺	0.0011-0.002
Minke whale	0.0116	0-0.002
*No sightings in SCANS-IV Block CS-K, therefore, SCANS-III Block S was used.		
+No sightings in either SCANS-III or SCANS-IV surveys.		

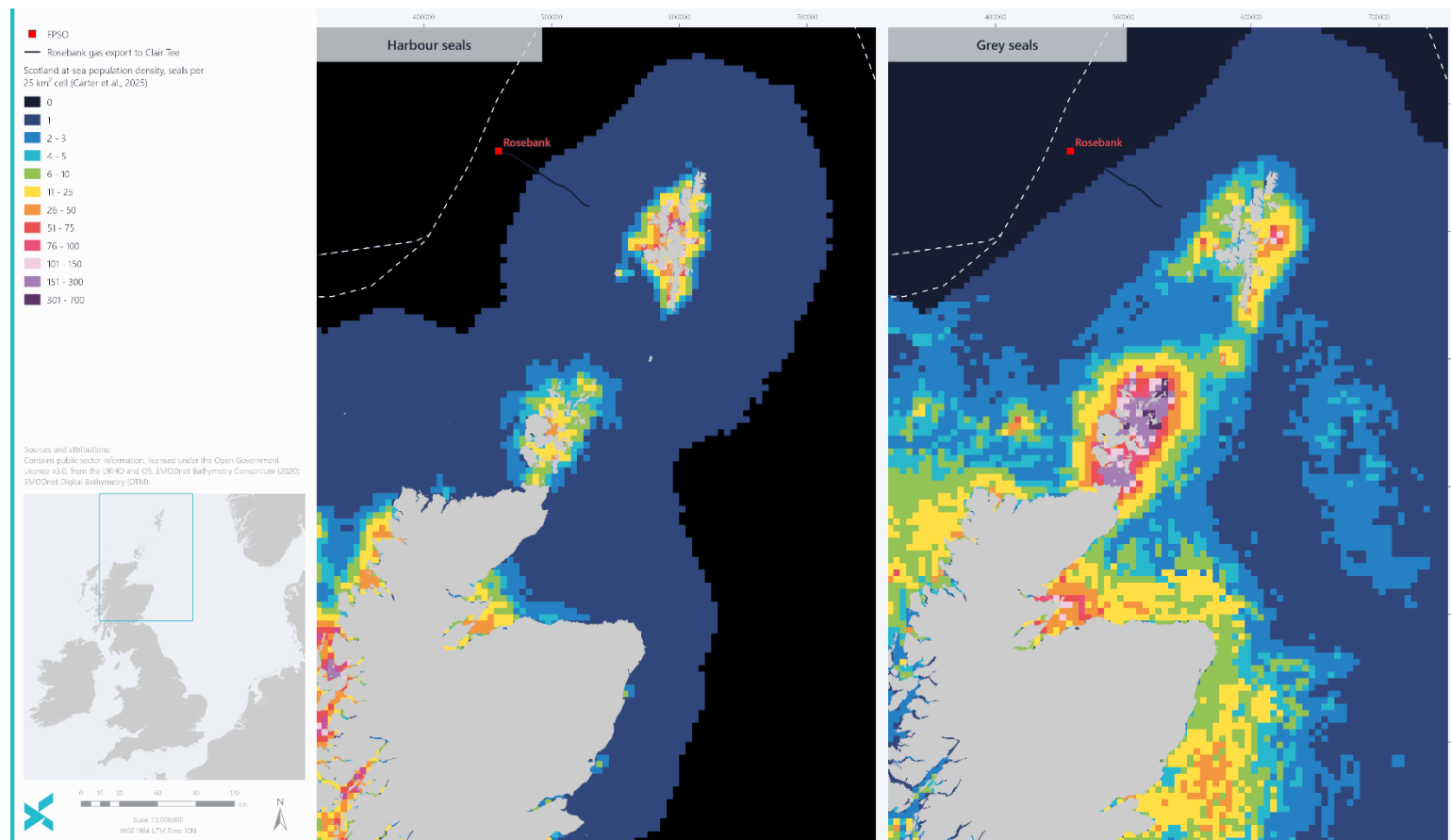


Figure A-2 Estimated at-sea densities of harbour seals and grey seals around Shetland and Orkney (Carter *et al.*, 2025).

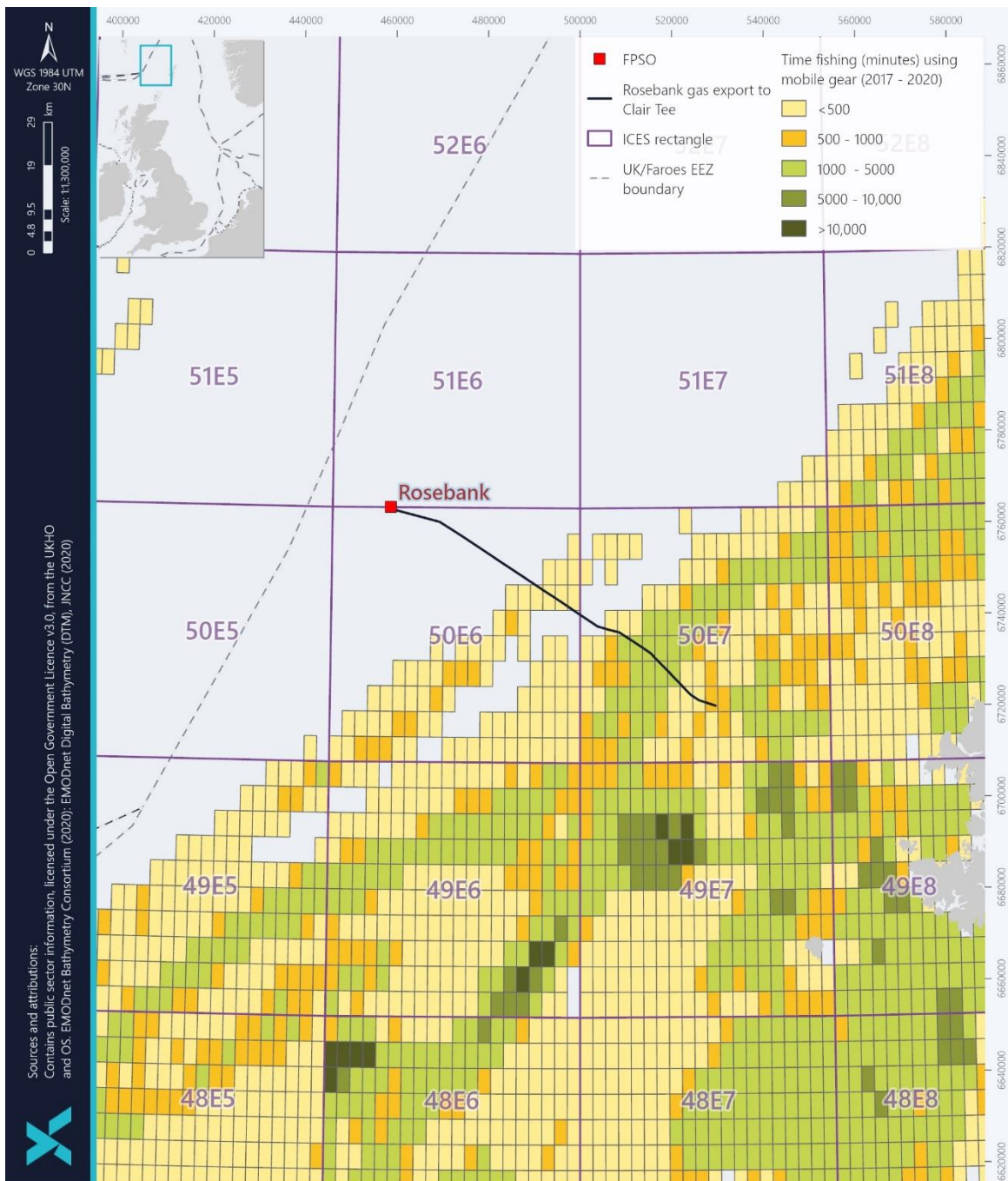


Figure A-3 Annual average VMS effort (time fishing in minutes) (2017 – 2020) (MMO, 2021)

Table A-2 Fisheries landings and effort data in the Rosebank project area (Marine Directorate, 2024a)

Species type	2019		2020		2021		2022		2023	
	Live weight (t)	Value (£)	Live weight (t)	Value (£)	Live weight (t)	Value (£)	Live weight (t)	Value (£)	Live weight (t)	Value (£)
ICES rectangle 51E6										
Demersal	-	-	-	-	-	-	-	-	D	D
Pelagic	-	-	-	-	-	-	-	-	D	D
Shellfish	-	-	-	-	-	-	-	-	D	D
Total	-	-	-	-	-	-	-	-	D	D
ICES rectangle 50E6										
Demersal	5,062,496	3,229	2,274,594	2,390	2,666,158	1,923	5,283,625	2,969	393	604,173
Pelagic	4,790,116	3,994	2,687,192	2,536	511,845	568	1,527,766	2,158	-	-
Shellfish	56,208	14	32,314	11	67,729	21	122,093	30	2	7,910
Total	9,908,820	7,237	4,994,100	4,937	3,245,732	2,512	6,933,484	5,156	395	612,083
ICES rectangle 50E7										
Demersal	5,062,496	3,229	2,274,594	2,390	2,666,158	1,923	5,283,625	2,969	2,513	4,500,128
Pelagic	4,790,116	3,994	2,687,192	2,536	511,845	568	1,527,766	2,158	1,110	357,386
Shellfish	56,208	14	32,314	11	67,729	21	122,093	30	65	207,516
Total	9,908,820	7,237	4,994,100	4,937	3,245,732	2,512	6,933,484	5,156	3,688	5,065,030

Table A-3 Monthly breakdown of fishing effort (in days) in the Rosebank project area between 2018 – 2022 (Marine Directorate, 2024a)¹³

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ICES rectangle 51E6													
2023	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-	-	D	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-	-
ICES rectangle 50E6													
2023	D	-	10	D	D	15	D	13	10	D	42	26	150
2022	5	3	D	5	17	16	7	D	23	49	D	44	184
2021	D	8	D	D	D	D	D	5	D	D	D	14	57
2020	18	D	D	D	D	D	D	22	17	D	10	5	100
2019	14	D	D	D	D	D	-	D	25	31	D	D	95
ICES rectangle 50E7													
2023	70	49	47	45	22	46	21	25	52	42	67	85	571
2022	59	70	72	26	24	23	40	46	30	51	46	95	580
2021	37	51	23	31	19	27	19	39	51	25	18	22	361
2020	27	28	56	44	8	D	21	53	28	26	38	38	375
2019	80	39	31	23	25	26	21	11	28	40	41	14	377

¹³ Fishing effort data for ICES Rectangle 51E6 were unavailable for all years.

TableA-4 Updated sensitivities for NCMPA Qualifying Features

NCMPA QUALIFYING FEATURE	ORIGINAL SENSITIVITY (ROSEBANK ES)	UPDATED SENSITIVITY
Deep-sea sponge aggregations	Sensitive to high	High
Offshore subtidal sands and gravels including: • Deep-sea sands; • Continental shelf sands; • Continental shelf coarse sediments; • Continental shelf mixed sediments; • Deep-sea mixed sediments.	Medium to high	Medium to high
Ocean quahog <i>Arctica islandica</i>	High	High
Continental slope	Low	Low
Continental slope channels, iceberg plough marks, prograding wedges and slide deposits representative of the West Shetland Margin paleo-depositional system Key Geodiversity Area	Low for prograding wedges, otherwise medium (abrasion/penetration) to high (change and physical removal) for the other features	Continental slope channels: low (sub-surface abrasion/penetration) to medium (physical removal) Iceberg ploughmark fields: medium (sub-surface abrasion/penetration) to high (physical removal) Prograding wedge: Low (sub-surface abrasion/penetration and physical removal) Slide deposits: medium (sub-surface abrasion/penetration) to high (physical removal) Features not sensitive to other impacts. Sensitivity of Continental slope channels has reduced from previous assessment.
Sand wave fields and sediment wave fields representative of the West Shetland Margin contourite deposits Key Geodiversity Area	Low (abrasion/penetration) to medium (change and physical removal) for sand wave fields and high for sediment wave fields	Low (abrasion/penetration) to medium (change and physical removal) for sand wave fields. Low (physical change), medium (abrasion/penetration) and high (physical removal) for sediment wave fields. This represents a decrease in sensitivity for sediment wave fields to physical change and abrasion/penetration, and an increase in sensitivity to physical removal.

APPENDIX B – COMPETENT EXPERTS

Name	Company	Title	Relevant Qualifications Experience
Withheld	Xodus	Withheld	Approximately 20 years of experience in environment/oil and gas, with extensive experience in managing west of Shetland environmental issues. PhD in marine energy, and chartered environmentalist.
Withheld	Xodus	Withheld	Approximately 17 years of experience in undertaking EIA Projects. Managed a number of large oil and gas projects, including west of Shetland projects.
Withheld	Equinor UK Limited	Withheld	Approximately 13 years of experience in offshore oil and gas regulatory compliance.