Addendum to the Environmental Impact Assessment Report

NISA

North Irish Sea Array

Volume 9 - Offshore Appendices

Appendix A14.2
Marine Mammal Baseline Characterisation

Statkraft

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Appendix A14.2: North Irish Sea Array Offshore Windfarm: Marine Mammal Baseline Characterisation

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Rev.	Date.	Reason for Issue.	Prep.	Checked	Client
1	13 Nov 2025	Addendum in response to RfIs	JC, AS	RRS	PD, WH
2	01 Dec 2025	Edits following Client review	RRS	RRS	LD, AP
3	16 Dec 2025	Edits following Client review	RRS	RRS	
4	09 Jun 2026	Final seal survey data	RRS	RRS	

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2 Introduction

North Irish Sea Array Windfarm Ltd (NISA, hereafter referred to as 'the Developer') has been considering the Request for Further Information (RFI) issued by An Bord Pleanála (now An Coimisiún Pleanála) as well as the third-party submissions received following public consultation. At An Coimisiún Pleanála's behest, the Developer has also continued to consult with stakeholders in respect of the 2024 planning application throughout 2024-2026. The Developer has refined elements of the design to respond to the third-party submissions, the continued public and stakeholder consultation and the RFI. Amendments are therefore required to Appendix 14.2 Marine Mammal Baseline of the 2024 Environmental Impact Assessment Report (EIAR). Full details of consultation undertaken can be found in Appendix A.1.2 in the Addendum to the EIAR.

For the purposes of clarity, this document shall be read in conjunction with the Appendix 14.2 submitted as part of the 2024 EIAR.

Any cross reference to a chapter, section, table, image, figure or appendix within this document is to another location within the Addendum to the EIAR unless explicitly stated otherwise. Any cross reference to anything included in the 2024 EIAR will be clearly labelled as such.

Text in bold is only used throughout this document to indicate where changes are required, and what is subsequently driving them. Text in italics is text from a section of the 2024 EIAR which is deleted, or quotations from other documents (as explicitly stated). Replacement text is in normal font.

Tables which have been updated from the 2024 EIAR, or entirely new tables, have been included in the Addendum to the EIAR. These can be identified by the "A" prefix in the caption. Any changes within an updated table, in comparison to tables within the 2024 EIAR, are indicated by grey shading in the relevant cell, column or row, as necessary.

The sections relevant to Appendix 14.2 in the RFI are included below.

RFI Section	RFI	Relevance to Appendix 14.2
10 (d)	With reference to the Guidance on Marine Baseline Ecological Assessments & Monitoring Activities for Offshore Renewable Energy Projects Part 2, April 2018 by the Department of Communications Climate Action and Environment (DCCAE) (DCCAE (2018) Guidance), the applicant is requested to justify: ▸ The selection of a 4km buffer area extending around the array area. The DCCAE (2018) Guidance recommends a minimum buffer of 10 km for cetaceans and seals, with monthly haul-out site surveys. ▸ The lack of empirical acoustic data, noting the Department of Housing, Local Government and Heritage, Development Application Unit (DAU) observation which states the omission of acoustic monitoring does not allow the site to be fully characterised for all Annex IV species. ▸ The lack of vantage point surveys at the cable landfall location	▸ The Developer has conducted new site-specific 2024-2025 DAS covering a much larger survey area (NISA survey site and broader North-West Irish Sea Special Protection Area) compared to the previous DAS in 2019-2022 (array plus 4km buffer). Additionally, seal haul-out landfall surveys have now also been conducted since Nov 2024. ▸ The Developer has responded regarding the lack of baseline PAM in the RFI Response Document. ▸ The Developer has now conducted seal haul-out landfall surveys since Nov 2024.
10 (e)	The applicant is requested to confirm whether any on-going or additional surveying has been carried out on	The Developer has conducted new site-specific 2024-2025 DAS covering a much

	the site in relation to mobile species since the application was lodged. If so, the applicant is invited to submit any further survey data results and incorporate these into the assessments within the application documentation as appropriate.	larger survey area (NISA survey site and broader North-West Irish Sea Special Protection Area) compared to the previous DAS in 2019-2022 (array plus 4km buffer). Additionally, seal haul-out landfall surveys have now also been conducted since Nov 2024.
10 (n)	The DAU notes that monitoring for pinniped species at the location where the proposed development interacts with the shore was not carried out by the applicant and therefore there is no information on whether harbour and grey seals use this site. The applicant is requested to submit further information by means of specific surveys of the site for pinnipeds and that this should also be set in the context of seasonal changes in distribution of these species. The applicant is requested to refer to the most up-to-date NPWS seal data and guidance on Marine Baseline Ecological Assessments & Monitoring Activities for Offshore Renewable Energy Projects Part 2, April 2018, DCCAE.	The Developer has now conducted seal haul-out landfall surveys since Nov 2024. Additionally, other new seal data has also been considered in the baseline characterisation: ▸ Irish seal haul-out surveys (Morris et al., 2025)

2.1 Purpose of report

This baseline report has been prepared in response to RFI 10.d and 10.e. The Applicant has updated Appendix 14.2 of the 2024 EIAR to include detail on the 2024-2025 digital aerial surveys (DAS), as well as haul-out surveys for seals at the landfall site. Additionally, other published datasets that have become available since the 2024 EIAR have been included.

There are no further changes to this section. Refer to Section 2.1 of Appendix 14.2 in the 2024 EIAR.

2.2 Approach

There are no changes to this section. Refer to Section 2.2 of Appendix 14.2 in the 2024 EIAR.

2.3 Study Area

There are no changes to this section. Refer to Section 2.3 of Appendix 14.2 in the 2024 EIAR.

2.4 Protected Sites

In addition to the marine mammal SACs shown in Figure 2 in Appendix 14.2 Marine Mammal Baseline Characterisation of the 2024 EIAR, the Isle of Man Marine Nature Reserves (Figure A2-1 and Table A2.1) have now been added to the list of protected sites screened in for marine mammals and the potential for impacts upon these MNRs is considered in the Natura Impact Statement (NIS)
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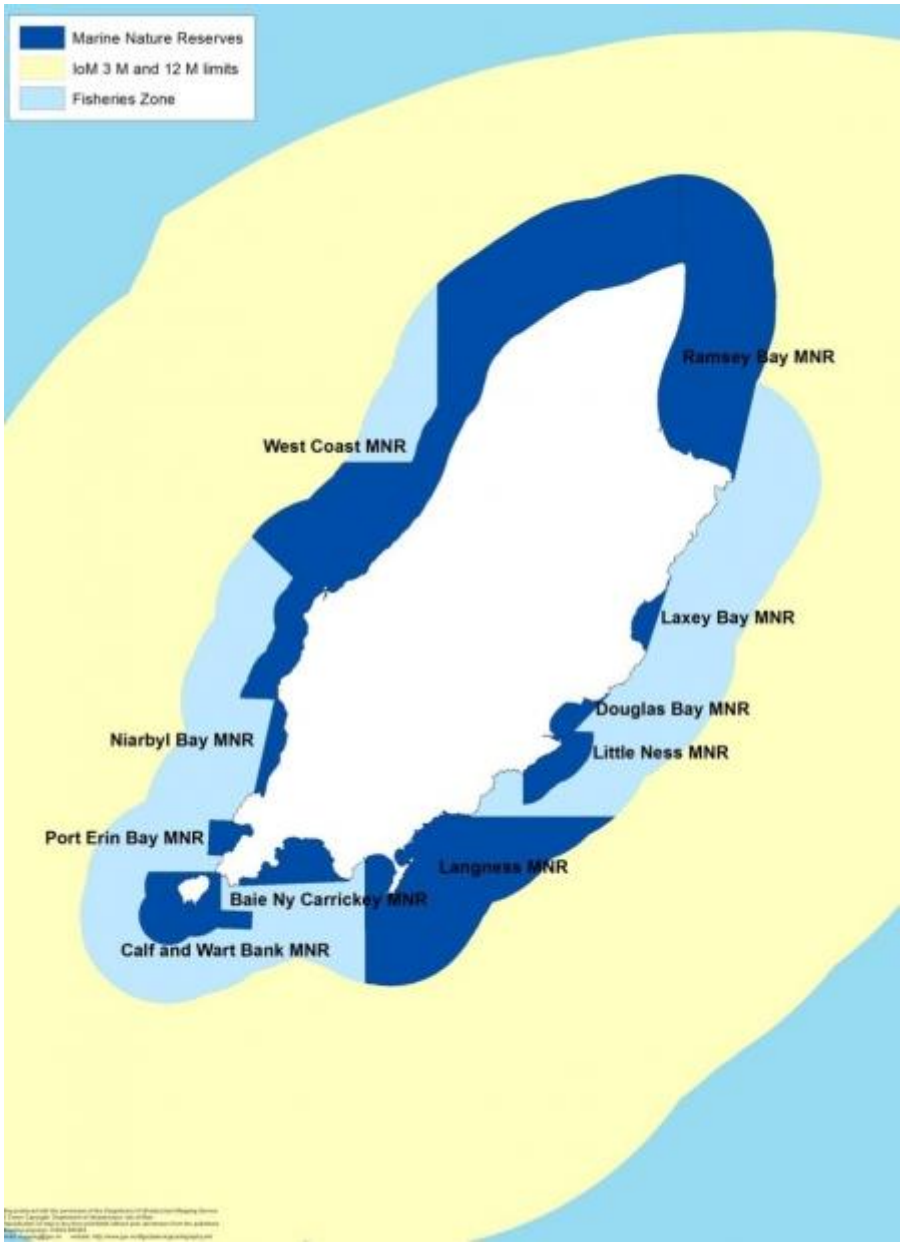

Figure A2-1 Isle of Man Marine Nature Reserves

Table A2.1 Isle of Man Marine Nature Reserves with marine mammal designation features.

Marine Nature Reserve	Marine Mammal Designation Features					
	Harbour seal	Grey seal	Harbour Porpoise	Bottlenose dolphin	Risso's dolphin	Minke whale
Calf and Wart Bank	x	x	x		x	
Baie ny Carrickey			x	x	x	
Douglas Bay				x	x	
Langness	x	x	x			
Laxey Bay			x	x		x
Little Ness			x		x	
Niarbyl Bay		x	x			
Port Erin Bay			X			
Ramsey Bay	x	X				
West Coast	x	x	x			

3 Data Sources

Table A3.1 outlines the additional data sources considered in this report that have become available since the 2024 EIAR and replaces Table 1.

Table A3.1 Data sources examined to inform the baseline characterisation for marine mammals (Replaces Table 1 in Appendix 14.2 of the 2024 EIAR)

Data source	Type of data	Temporal and spatial coverage
2024-2025 DAS	Digital aerial surveys	September 2024 to August 2025, NISA survey site and broader North-West Irish Sea Special Protection Area (Figure A3-1, Figure A3-2, Figure A3-3).
ObSERVE 2 (Giralt Paradell *et al.*, 2024)	Visual aerial surveys	3 surveys: summer 2021, summer 2022 and the winter of 2022-2023. Offshore waters around Ireland, within and beyond Ireland's continental shelf. The offshore development area is entirely located within ObSERVE survey Stratum 5.
Gilles *et al*. (2025) SCANS IV density surface	Predictive habitat-based models of cetaceans in European Atlantic waters in the summer of 2022 based on SCANS IV survey data	Modelled density surfaces cover the entire SCANS IV survey area. NISA is located within SCANS IV block CS-D.
Seal landfall surveys	Visual landfall surveys	Since November 2024, GoBe have conducted seal counts at three land-based vantage points close to the NISA landfall area. These counts include counts of seals within the landfall area, both at-sea and hauled-out on land.

Data source	Type of data	Temporal and spatial coverage
Irish seal haul-out surveys (Morris *et al.*, 2025)	Aerial thermal-imaging	August 2024, surveys covered the whole Irish coastline.
Site-specific surveys (Nov 2019 – Oct 2022)	Combination of visual boat-based surveys (Nov 2019, Jan 2020 - Mar 2020, June & July 2021) and digital aerial surveys (May 2020 - October 2022) (Natural Power, 2021, 2022)	The original site specific DAS survey extent mirrored the array area within the foreshore licence plus a 4km buffer. The DAS survey extent was updated in November 2020 to include the entire MAC boundary (which included the small area beyond 12nm that was not within the original DAS survey extent.)
SCANS IV (Gilles *et al.*, 2023)	Aerial and vessel visual surveys resulting in survey block specific density estimates	June, July, August 2022. All European Atlantic waters. The proposed development is located in block CS-D (western Irish Sea).
SCANS III (Hammond *et al.*, 2017, Hammond *et al.*, 2021, Lacey *et al.*, 2022)	Aerial and vessel visual surveys	June & July 2016. All European Atlantic waters. The proposed development is located in block E (western Irish Sea).
SCANS II (Hammond *et al.*, 2013)	Aerial and vessel visual surveys	June & July 2005. All European Atlantic waters. The proposed development is located in block O (entire Irish Sea).
ObSERVE (Rogan *et al.*, 2018)	Visual aerial surveys	4 surveys: summer 2015, winter 2015, summer 2016 and winter 2016. Offshore waters around Ireland, within and beyond Ireland's continental shelf. The offshore development area is entirely located within ObSERVE survey Stratum 5.
Irish marine mammal atlas (Wall *et al.*, 2013)	Collation of data from Irish Whale and Dolphin Group (IWDG), the ISCOPE I and II projects, ferry survey programme and the PReCAST surveys.	2005-2011 Irish EEZ.
IWDG Irish Sea surveys (Berrow *et al.*, 2011)	Visual and acoustic survey	2 surveys in August 2011. Inshore surveys in 2 blocks: Block A (northern Irish Sea – including the proposed development) and Block B (southern Irish Sea).
IWDG SAC surveys (Berrow and O'Brien, 2013, O'Brien and Berrow, 2016, Berrow *et al.*, 2021)	Visual and acoustic line transect surveys	1 survey in 2013 4 surveys in 2016 6 surveys in 2021 Rockabill to Dalkey Island SAC.
IWDG Irish coastal water surveys (Berrow *et al.*, 2008)	Vessel based visual line transect surveys and T-POD acoustic monitoring	6 survey days between July-September 2008. 5 sites (North County Dublin, Dublin Bay, Cork coast, Roaringwater Bay SAC and Galway Bay).
IWDG Greater Dublin Drainage Project surveys (Meade *et al.*, 2017)	Land based observations, vessel-based surveys and CPOD acoustic monitoring	24 surveys: March 2015-March 2017. Land: North-eastern cliffs of Howth Head Vessel: waters off Loughshinny and Portmarnock area

Data source	Type of data	Temporal and spatial coverage
		CPODs: 3 sites: East of Loughshinny, North of Lambay Island and off Portmarnock.
Marine Ecosystems Research Programme (MERP) maps (Waggitt *et al.*, 2019)	Collation of data from Joint Cetacean Protocol (JCP) (aerial and vessel)	1980 and 2018. European Atlantic waters.
Distribution and abundance of cetaceans Wales and its adjacent waters (Evans and Waggitt, 2023)	Maps of sighting rates and indicative density surface maps from aerial and vessel survey data	1990 – 2020 Wales and adjacent seas, including the whole Irish Sea.
Seal counts 2017-2018 (Morris and Duck, 2019)	Aerial survey	August 2017 and 2018. Entire coastline of Ireland.
Seal telemetry (Cronin *et al.*, 2016)	Telemetry tags	Strangford Lough: 33x harbour seals (2006, 2008 & 2010) Raven Point (Co Wexford): 19x grey seals 2013 & 2014 Great Blasket Island: 8x grey seals 2009
Seal at-sea density (Russell *et al.*, 2017)	Density surface based on telemetry and count data	Telemetry data: 1991-2015. Count data: 2015. UK, Republic of Ireland and France.
Seal counts 2005 (Ó Cadhla *et al.*, 2007)	Aerial survey	Spring & summer 2005. Entire coastline of the Republic of Ireland.
Seal counts 2017-2018 (Morris and Duck, 2019)	Aerial survey	August 2017 and 2018. Entire coastline of Ireland.
Seal telemetry (Cronin *et al.*, 2016)	Telemetry tags	Strangford Lough: 33x harbour seals (2006, 2008 & 2010). Raven Point (Co Wexford): 19x grey seals 2013 & 2014. Great Blasket Island: 8x grey seals 2009.
Codling surveys (Codling Wind Park Limited, 2020)	Visual vessel surveys	April 2013 – March 2014 and again in Oct 2018 – Oct 2019. Codling Wind Park array area.
Arklow surveys (RPS, 2020)	Visual vessel surveys Digital aerial surveys	Monthly vessel surveys: July 1996 and March 1997, and June 2000 and June 2009. Arklow Bank wind farm array area plus a 5 km buffer. Monthly aerial surveys between March 2018 and February 2020. Lease Area plus a 4 km buffer.
Oriel surveys {RPS, 2019 #9864}	Boat-based survey Acoustic monitoring survey (4x CPoDs)	Surveys started in 2018. Unknown timeline

3.1 Site-specific surveys

There are no changes to this section. Refer to Section 3.1 of Appendix 14.2 in the 2024 EIAR.

3.2 Vessel surveys

There are no changes to this section. Refer to Section 3.2 of Appendix 14.2 in the 2024 EIAR.

3.3 2024-2025 DAS

The additions to this section are required as a result of the new 2024-2025 DAS. To ensure the marine mammal assessment remains relevant and up to date, the new surveys have been outlined within this section and the resulting data on marine mammals has been considered in conjunction with the previous 2020-2022 site-specific surveys. This text follows on from Section 3.3 in Appendix 14.2 of the 2024 EIAR.

APEM were contracted by Statkraft Ireland Ltd to conduct a 12 month digital aerial survey (DAS) programme from September 2024 to August 2025 of the NISA survey site and broader North-West Irish Sea candidate Special Protection Area (cSPA), collectively referred to as the Survey Area, covering a maximum area of 2,396 km². Surveys were conducted using APEM's high-resolution camera system on a twin-engine aircraft. Transects were spaced approximately 3.5 km apart and were flown at an altitude of approximately 1,300 ft.

Surveys were planned to be undertaken using the 'Plan A' survey design along 17 east-west transects across the Survey Area (Figure A3-1). However, complications with access to the Dublin Airport Control Zone (CTR) meant that this design was only possible in November 2024, and an adapted 'Plan B' survey design was required in most months to avoid the CTR, by reducing the length of eight transects and including an additional two north-south transects within the CTR to maximise survey coverage (Figure A3-2). For the April and May 2025 survey, it was not possible to gain access to run the CTR transects during the survey. It was planned to run these transects later in the months but this did not happen due to continued airspace restrictions. Therefore, these surveys were run using the 'Plan C' survey design (Figure A3-3).

Target coverage was 18% during Plan A surveys and 15% during Plan B and C. Surveys were conducted in all months, with surveys in March and August 2025 being undertaken over two flights. Details of the surveys conducted and the environmental conditions during them are presented in Table A3.2.

Table A3.2 2024-2025 DAS summary.

	Month	Date	Survey Plan	Survey conditions				
				Cloud cover (%)	Visibility (km)	Wind (knots)	Sea state	Turbidity
1	September	21/09/2024	B	80-95	10+	19-29	2	1-3
2	October	01/10/2024	B	10-100	10+	15-27	1-3	1-3
3	November	26/11/2024	A	0-15	10+	11-16	1-4	1-3
4	December	10/12/2024	B	75-80	10+	8-20	1-3	1-3
5	January	08/01/2025	B	50-100	10+	6-12	1	1
6	February	27/02/2025	B	0	10+	10-20	1	1
7	March	11/03/2025, 12/03/2025	B	25-60	10+	13-18	2-3	1-2
8	April	05/04/2025	C	0-5	10+	16-25	3	1
9	May	10/05/2025	C	0	10+	4-13	1	0
10	June	03/06/2025	B	20-60	8-10	22-24	2-3	0
11	July	19/07/2025	B	50-100	5-10+	9-11	1-2	0
12	August	03/08/2025, 06/08/2025	B	90-100	10+	13-15	2	1

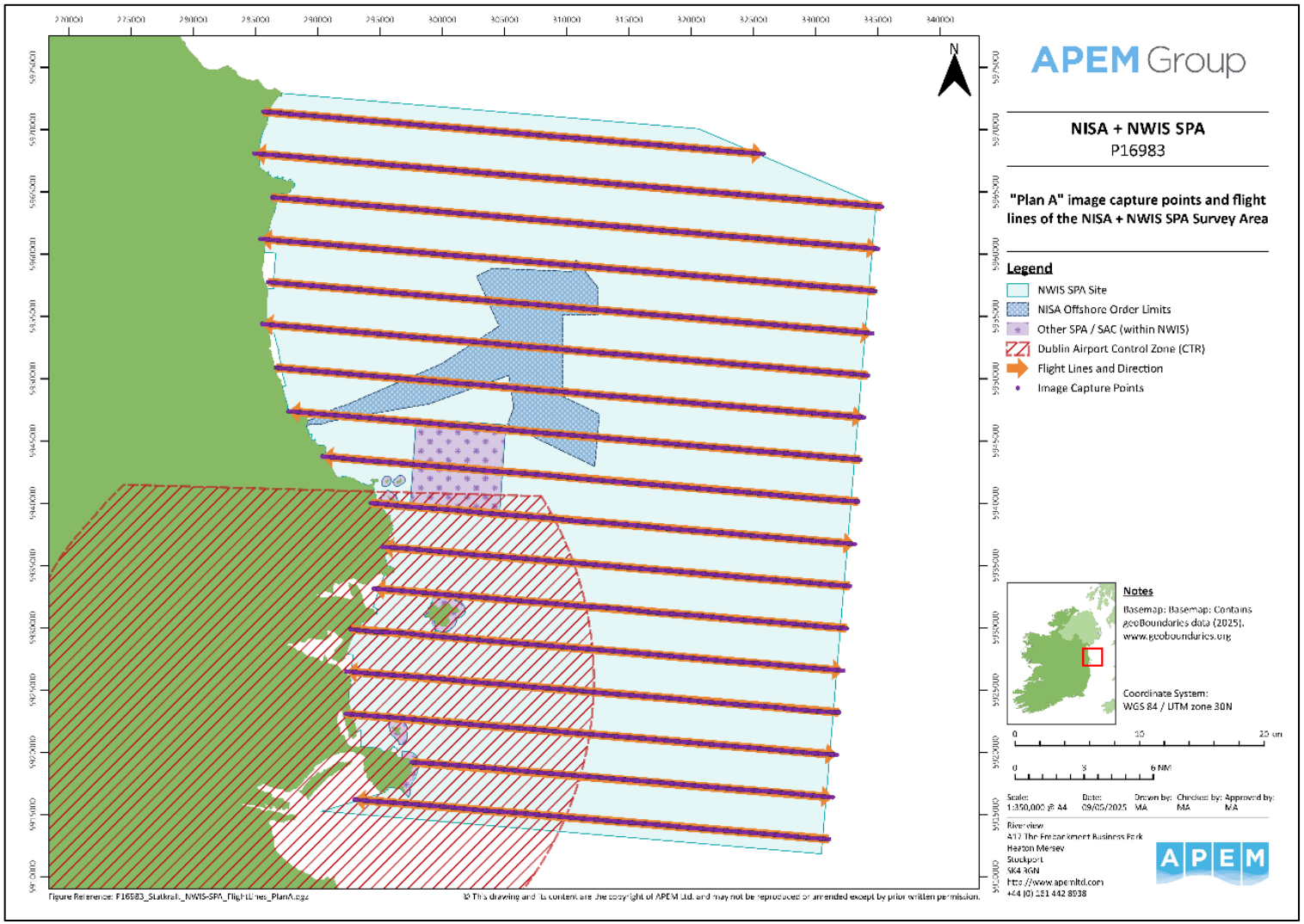

Figure A3-1 Location of the Survey Area with the Plan A survey design image capture points and flight lines (2024-2025 DAS).

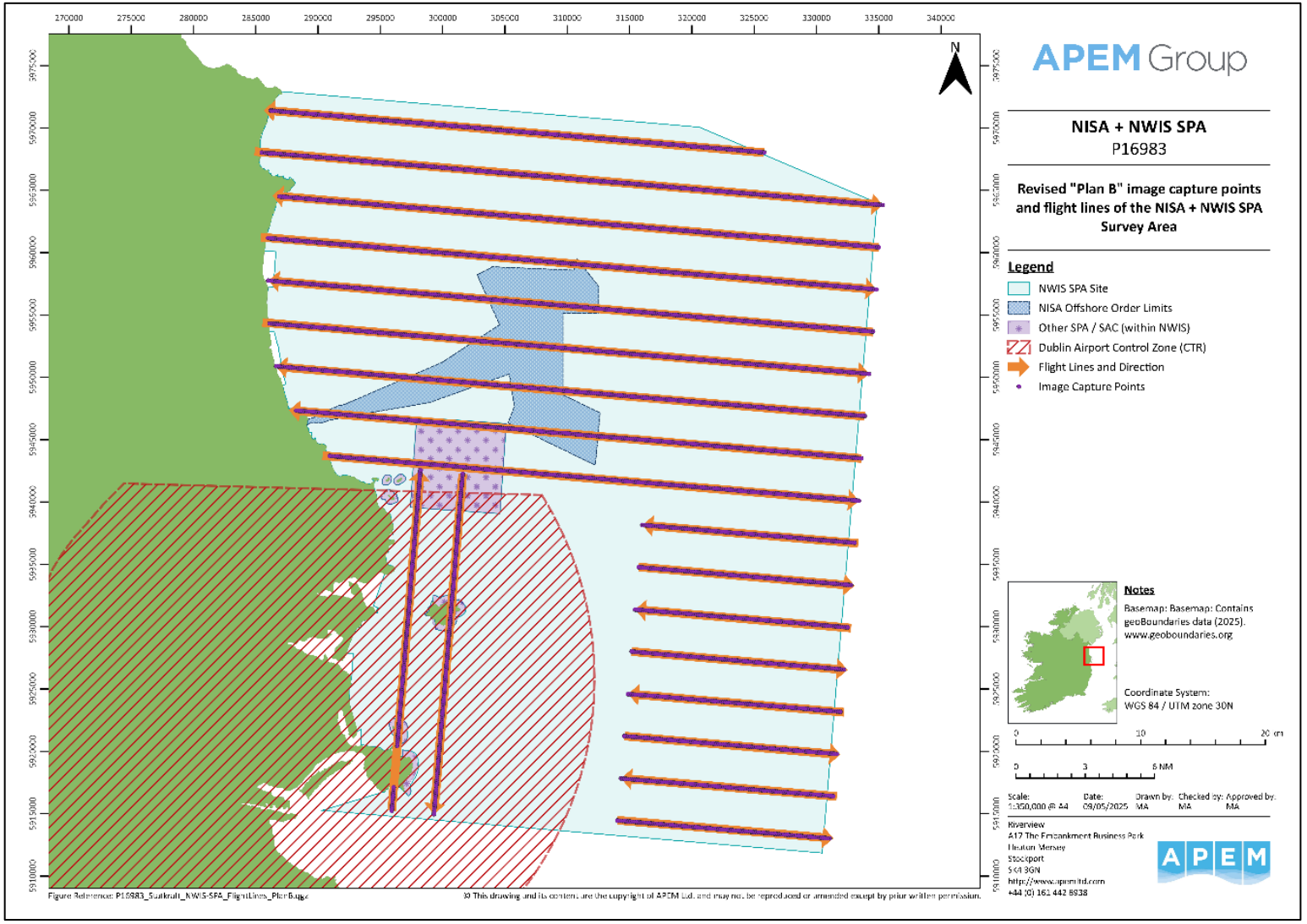

Figure A3-2 Location of the Survey Area with the Plan B survey design image capture points and flight lines (2024-2025 DAS).

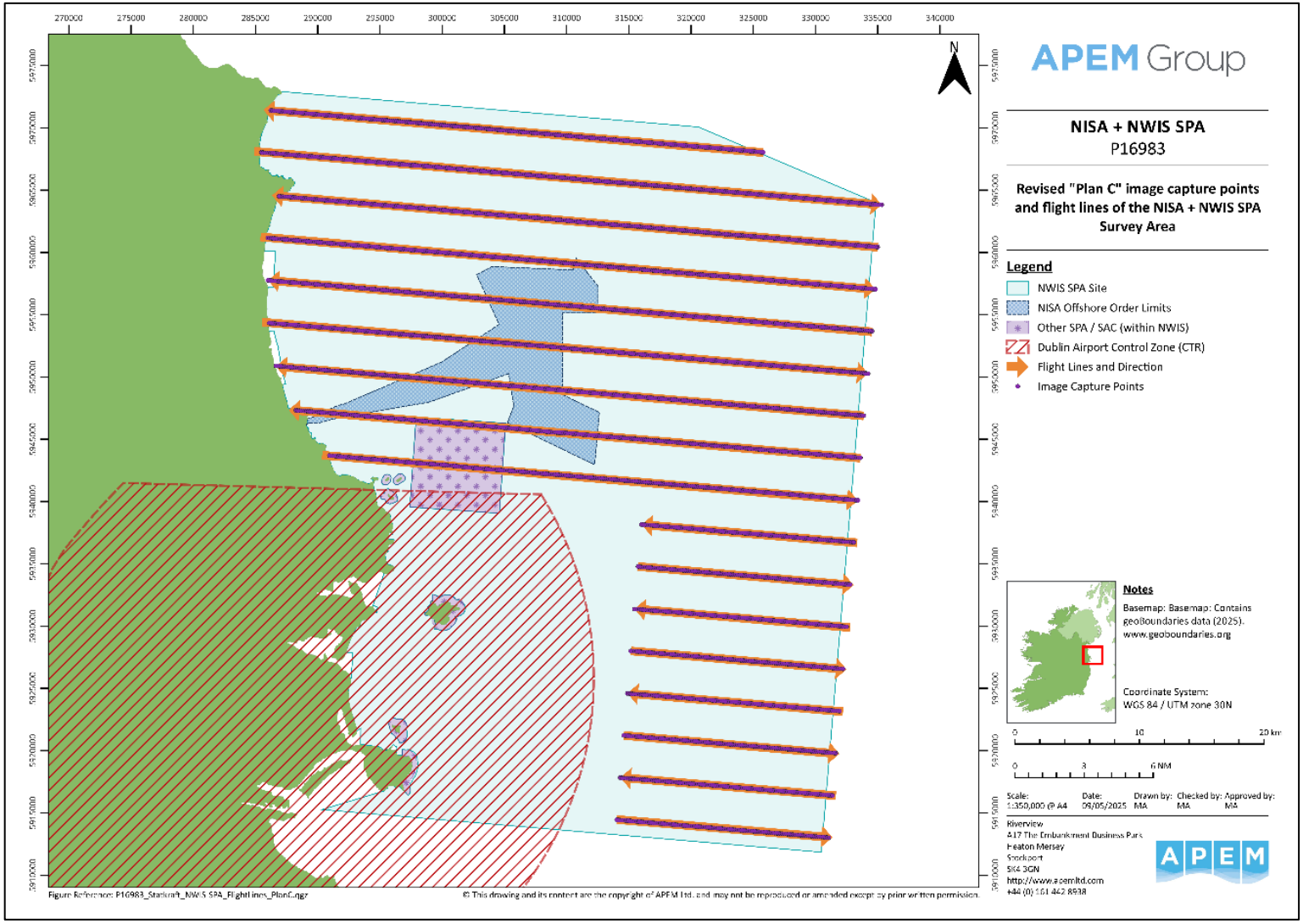

Figure A3-3 Location of the Survey Area with the Plan C survey design image capture points and flight lines (2024-2025 DAS).

In total, 1,820 marine mammals were observed across the 2024-2025 DAS. Of these, 1,603 were identified to species level (88.1% of total marine mammal sightings) and the remaining 217 could not be categorised to species level (11.9% of total marine mammal sightings). This was due to the challenges of identifying to species level sightings of marine mammals that are below the water surface. The following species/groups were recorded during the 2024-2025 DAS:

- Harbour porpoise (n=998, 54.8%)
- Bottlenose dolphins (n=1, 0.1%)
- Common dolphin (n=487, 26.8%)
- Harbour seal (n=1, 0.1%)
- Grey seal (n=113, 6.2%)
- Dolphin species (no ID) (n=11, 0.6%)
- Dolphin/porpoise (no ID) (n=85, 4.7%)
- Seal species (no ID) (n=77, 4.2%)
- Marine mammal species (no ID) (n=44, 2.4%)

These are the same marine mammal species that were sighted during the previous 2020-2022 site-specific surveys.

3.4 ObSERVE

There are no changes to the section on ObSERVE 1. Refer to Section 3.4 of Appendix 14.2 in the 2024 EIAR.

3.4.1 ObSERVE 2

This new section is required as a result of the publication of ObSERVE2 data since the 2024 EIAR. To ensure the marine mammal assessment remains relevant and up to date, the new ObSERVE 2 data have been considered further within this section.

The ObSERVE 2 Aerial Project, commissioned in 2021, was designed to build on the baseline established under ObSERVE Phase 1 (Rogan *et al.*, 2018) and expand understanding of marine mammal and seabird occurrence across Ireland's offshore waters. Delivered by University College Cork, the programme applied broad-scale line transect aerial surveys across Ireland's Exclusive Economic Zone (EEZ), covering continental shelf, slope and deep-water habitats in summer 2021, summer 2022 and the winter of 2022, generating approximately 31,000 km of survey effort. The ObSERVE2 summer surveys were conducted later in the year (July – September) than the ObSERVE Phase 1 surveys (late May – mid July). In addition, fine-scale aerial survey blocks were implemented off the south and southwest coasts during summer, autumn and winter seasons, adding over 13,000 km of targeted coverage to assess coastal and nearshore distributions in greater detail (Giralt Paradell *et al.*, 2024). Surveys were conducted using aircraft, with paired observers on either side (four observers in total) recording sightings of seabirds, cetaceans and other large marine fauna in real time, alongside environmental variables. Standardised distance-sampling protocols were employed to ensure robust detection functions and enable abundance estimation, with transects designed to achieve systematic, representative coverage of the survey blocks. The aerial platform facilitated rapid coverage of extensive areas, providing snapshots of seasonal and interannual variability while minimising disturbance to target species (Giralt Paradell *et al.*, 2024). This structured approach ensured

consistency with international best practice for aerial wildlife surveys and provided a statistically rigorous dataset for baseline characterisation of marine megafauna in Irish waters.

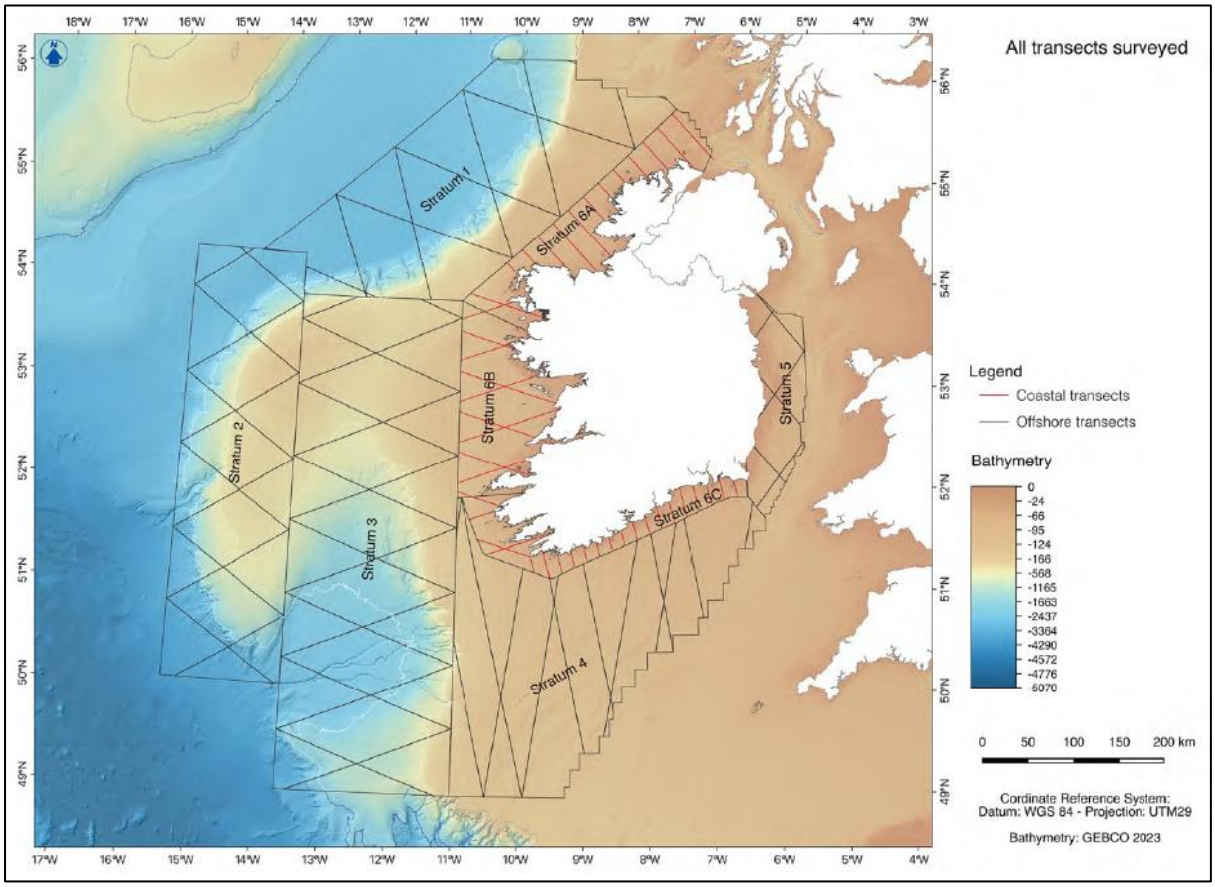

Figure A3-4 Map of the survey area for the ObSERVE2 surveys in 2021 and 2022 (Giralt Paradell *et al.*, 2024). NISA is located within ObSERVE 2 stratum 5.

Broad-scale surveys recorded over 2,200 cetacean sightings of 17 species, with estimated populations exceeding several hundred thousand cetaceans seasonally. Common dolphins were the most abundant cetacean (up to ~600,000 in summer 2021), followed by bottlenose dolphins (~35,000), while beaked whales (≥3 species) showed concentrations along the shelf break, with winter estimates of ~3,700 animals. Harbour porpoises were less abundant than in ObSERVE Phase 1, but were concentrated mainly in the Irish Sea. Minke whales (2,000–4,600 in summer) dominated baleen whale records, complemented by regular fin and humpback whale sightings (Giralt Paradell *et al.*, 2024). NISA is located within ObSERVE 2 stratum 5.

3.5 SCANS

There are no changes to this section. Refer to Section 3.5 of Appendix 14.2 in the 2024 EIAR.

3.5.1 SCANS IV

There are no changes to the SCANS IV block-wide density estimates, as presented in Section 3.5.1 of Appendix 14.2 in the 2024 EIAR.

3.5.1.1 SCANS IV Density surface

The addition of this section is required as a result of the publication of the SCANS IV density surfaces since the 2024 EIAR. To ensure the marine mammal assessment remains relevant and up to date,

the new SCANS IV density surfaces have been considered further within this section. It should be noted that the new SCANS IV density surfaces replace the old SCANS III density surfaces presented in Section 3.5.2 of Appendix 14.2 in the 2024 EIAR.

While the submitted EIA provided a summary of the unform density estimates for each SCANS IV block, at the time of writing the EIA, grid-cell specific density surface estimates for SCANS IV were unavailable. More recently, as part of SCANS IV, the survey data were modelled in relation to spatially linked environmental features to produce (grid-cell specific) density surface maps (Gilles *et al.*, 2025). The cetacean data used in the models were the same as those obtained in 2022 (SCANS IV) (Gilles *et al.*, 2023). The environmental covariates used in the density surface modelling were selected due to their potential to explain the additional variability in the cetacean density estimates (for example, water depth and sea surface temperature (see Gilles *et al.* (2025) for the full list of environmental covariates)). The models were fitted using a spatial resolution of 10 km and predicted onto a 10 x 10 km spatial grid. Using the predicted density estimates from the surface models, density and abundance estimates, updates can be generated for an entire survey area or a defined area within it, such as NISA.

3.5.2 SCANS III

It should be noted that the new SCANS IV density surfaces (as presented above) replace the old SCANS III density surfaces presented in Section 3.5.2 of Appendix 14.2 in the 2024 EIAR.

There are no further changes to this section. Refer to Section 3.5.2 of Appendix 14.2 in the 2024 EIAR.

3.5.3 SCANS II

There are no changes to this section. Refer to Section 3.5.3 of Appendix 14.2 in the 2024 EIAR.

3.6 Irish Marine Mammal Atlas

There are no changes to this section. Refer to Section 3.6 of Appendix 14.2 in the 2024 EIAR.

3.7 MERP maps

There are no changes to this section. Refer to Section 3.7 of Appendix 14.2 in the 2024 EIAR.

3.8 Distribution and abundance of cetaceans in Wales and its adjacent waters

There are no changes to this section. Refer to Section 3.8 of Appendix 14.2 in the 2024 EIAR.

3.9 IWDG Surveys

3.9.1 Bottlenose dolphin Photo-ID surveys

There are no changes to this section. Refer to Section 3.9.1 of Appendix 14.2 in the 2024 EIAR.

3.9.2 Inshore surveys – Irish Sea

There are no changes to this section. Refer to Section 3.9.2 of Appendix 14.2 in the 2024 EIAR.

3.9.3 Rockabill to Dalkey Island SAC surveys (2013, 2016 & 2021)

There are no changes to this section. Refer to Section 3.9.3 of Appendix 14.2 in the 2024 EIAR.

3.9.4 Harbour porpoise surveys (2008)

There are no changes to this section. Refer to Section 3.9.4 of Appendix 14.2 in the 2024 EIAR.

3.9.5 Greater Dublin Drainage Project (2015-2017)

There are no changes to this section. Refer to Section 3.9.5 of Appendix 14.2 in the 2024 EIAR.

3.10 Seal counts

3.10.1 Morris and Duck (2019)

There are no changes to this section. Refer to Section 3.10.1 of Appendix 14.2 in the 2024 EIAR.

3.10.2 Ó Cadhla *et al*. (2007)

There are no changes to this section. Refer to Section 3.10.2 of Appendix 14.2 in the 2024 EIAR.

3.10.3 SCOS Northern Ireland MU

There are no changes to this section. Refer to Section 3.10.3 of Appendix 14.2 in the 2024 EIAR.

3.10.4 Morris *et al*. (2025)

The addition of this section is required as a result of the updated seal haul-out surveys since the 2024 EIAR. To ensure the marine mammal assessment remains relevant and up to date, the new seal landfall haul-out surveys have been considered further within this section. These surveys update the Morris and Duck (2019) surveys detailed in Section 3.10.1 of Appendix 14.2 in the 2024 EIAR.

In August 2024, Morris *et al.* (2025) conducted aerial surveys of harbour and grey seals around Ireland using aerial thermal-imaging. These surveys update those conducted in 2003, 2011/2012, and 2017/2018. Surveys were restricted to the peak harbour seal moult season in August and to within 2 hours of low tide with no surveys occurring during periods of moderate, heavy or prolonged rainfall. Both high resolution colour images and thermal-images were obtained.

The counts obtained represent the number of seals that were onshore at the time of the survey and are an estimate of the minimum size of the population. They do not represent the total size of the local population since a number of seals would have been at sea at the time of the survey. However, telemetry data from tagged seals can be used to scale this estimate to take account of the proportion of animals at sea at the time of survey. It is noted that these data refer to the numbers of seals found within the surveyed areas only at the time of the survey; numbers and distribution may differ at other times of the year. The surveys were conducted in August since this is the period when harbour seals are moulting and is therefore the time of year when the largest numbers of harbour seals are ashore. While grey seals are also counted during these August surveys, these data do not necessarily provide a reliable index of population size. Grey seals aggregate in the autumn to breed at traditional colonies, therefore their distribution during the breeding season can be very different to their distribution at other times of the year.

3.10.5 Seal Landfall Surveys

The addition of this section is required as a result of the new seal landfall haul-out surveys since the 2024 EIAR. To ensure the marine mammal assessment remains relevant and up to date, the new seal landfall haul-out surveys have been considered further within this section.

In response to an ACP Request for Further Information (RFI), NISA requested that GoBe arrange monthly vantage point seal surveys across a 12-month period. This survey was in accordance with Guidance on Marine Baseline Ecological Assessments & Monitoring Activities for Offshore Renewable

Energy Projects Part 2, April 2018, DCCAE. The surveys took place at suitable vantage points (VPs) covering the proposed landfall site (Balbriggan, Co. Dublin) and a surrounding 500 m buffer.

Three VPs were identified; Bremore point at the northern extent of the Intertidal Survey Area (VP1), the mid-point of the landfall site (VP2), and at Martello Tower in Balbriggan (south of the intertidal survey area) (VP3) (see Figure A3-5). The VPs selected offered views of the full extent of the Intertidal Survey Area.

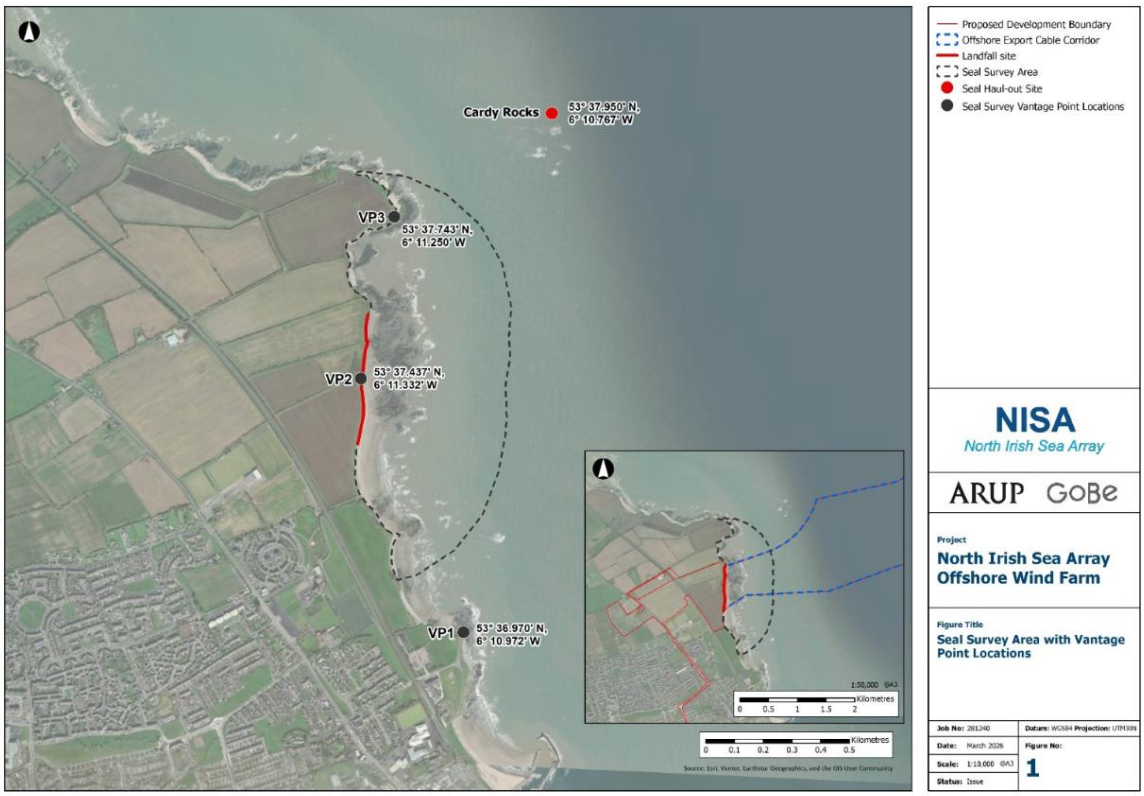

Figure A3-5 NISA seal landfall survey vantage points. The 500 m buffer is indicated by the black dashed line.

Hourly presence/absence counts were undertaken to record seals present (either hauled-out within the landfall site or 500 m buffer extending north and south along the coast, or present in the nearshore habitat). Between hourly counts, the surveyor moved to the next VP ensuring a distance of at least 100 m from any hauled-out seals to minimise disturbance, as per the NPWS guidelines (NPWS, 2010).

The surveyor walked along defined paths, where possible, aside from any required movement off path to reach the VP location.

The survey methodology included data collection for the following:

- Environmental conditions
- Seal counts (including separate counts of any pups) on land and at sea
- Species identification (harbour or grey seal)
- Record behaviours and disturbance.

A total of 13 surveys have been completed, with one survey in November 2024, then 12 surveys conducted monthly between June 2025 and May 2026.

3.11 Seal telemetry

There are no changes to this section. Refer to Section 3.11 of Appendix 14.2 in the 2024 EIAR.

3.12 Seal at-sea density

There are no changes to this section. Refer to Section 3.12 of Appendix 14.2 in the 2024 EIAR.

3.13 Other OWFs

There are no changes to this section. Refer to Section 3.13 of Appendix 14.2 in the 2024 EIAR.

4 Harbour porpoise

4.1 Proposed development: Site-specific surveys

4.1.1 Vessel surveys

There are no changes to this section. Refer to Section 4.1.1 of Appendix 14.2 in the 2024 EIAR.

4.1.2 Aerial surveys

Section 4.1.2 Aerial surveys of Appendix 14.2 in the 2024 EIAR remains unchanged, but has now been expanded upon with the following section on the 2024-2025 DAS which follows on from the text in Section 4.1.2 of the 2024 EIAR.

During the 2024-2025 DAS, harbour porpoise were the most frequently sighted species with a total of 998 harbour porpoise (54.8% of total marine mammal sightings). In addition, there were 85 unidentified dolphin/porpoise sightings (4.7% of total marine mammal sightings). The greatest number of sightings in the 2024-2025 DAS occurred in November 2024 (0.39 porpoise/km^2). The average density estimate across all 2024-2025 DAS was 0.21 porpoise/km^2. Densities were similar during the autumn, winter and spring (0.22 - 0.23 porpoise/km^2), but were lower during summer (0.15 porpoise/km^2) (Table A4.1).

The resulting density estimates from the 2024-2025 DAS are consistently lower than those calculated from the 2020-2022 site-specific surveys (Table A4.2). The average density from the 2020-2022 site-specific surveys was 0.38 porpoise/km^2, with highest densities in the Autumn months (0.49 porpoise/km^2), whereas the average density from the 2024-2025 DAS was 0.21 porpoise/km^2, with highest densities in the Spring months (0.23 porpoise/km^2). When comparing density estimates between the 2020-2022 site specific surveys and the 2024-2025 DAS it is important to note that the survey areas are not the same and thus do not provide a like for like comparison.

Table A4.1 Harbour porpoise sightings and calculated densities during the 2024 - 2025 DAS.

Survey	Month	Sightings (raw)	Absolute density (porpoise/km^2)	Density Confidence Intervals
1	Sep 24	62	0.16	0.09 – 0.23
2	Oct 24	45	0.11	0.07 – 0.15
3	Nov 24	187	0.39	0.28 – 0.52
4	Dec 24	74	0.19	0.10 – 0.30
5	Jan 25	71	0.18	0.10 – 0.26
6	Feb 25	115	0.29	0.20 – 0.39
7	Mar 25	69	0.17	0.08 – 0.29
8	Apr 25	53	0.14	0.07 – 0.23
9	May 25	136	0.37	0.19 – 0.61
10	Jun 25	45	0.11	0.07 – 0.16
11	Jul 25	57	0.14	0.09 – 0.19
12	Aug 25	84	0.21	0.16 – 0.27

Table A4.2 Harbour porpoise calculated densities from the new 2024-2025 DAS compared to the previous 2020-2022 site-specific surveys

	Season	Months	2020 –2022 site specific surveys	2024 – 2025 DAS
Average	All	All months	0.38	0.21
Average	Autumn	Sep, Oct, Nov	0.33	0.22
Average	Winter	Dec, Jan, Feb	0.22	0.22
Average	Spring	Mar, Apr, May	0.49	0.23
Average	Summer	Jun, Jul, Aug	0.54	0.15

4.2 ObSERVE

The text on ObSERVE 1 in Section 4.2 of Appendix 14.2 in the 2024 EIAR remains unchanged.

4.2.1 ObSERVE 2

The following section has been added as a result of the publication of the new ObSERVE 2 data.

With 128 sightings comprising 212 individuals, harbour porpoise was the second most frequently sighted cetacean species across the surveyed area in 2021 and 2022 (Giralt Paradell *et al.*, 2024), and were primarily observed in Stratum 5 which NISA is located within. Although most sightings were of single individuals, mean group size was slightly larger in the Winter (1.5 individuals) than in the Summer (1.3 individuals) across all strata. Density and abundance estimates (both design-based and model-based) per season and per stratum indicate interannual variability in the abundance of harbour porpoise (Summer 2021 abundance estimate of 20,991 (95% CI's 16,586 – 26,567) decreasing to 7,510 (95% CI's 5,940– 9,495) in Summer 2022) (Giralt Paradell *et al.*, 2024).

Greatest abundance and density estimates can be seen in the Irish Sea (stratum 5) for all seasons, with predicted distribution of harbour porpoise for Summer highlighting the northern section of stratum 5, in the Irish Sea, as an area of importance (Figure A 4-1 Figure A4-2) (Giralt Paradell *et al.*, 2024). Due to relatively few sightings, the predicted distribution reflects low densities of harbour porpoise throughout the Irish Sea for Winter (Giralt Paradell *et al.*, 2024).

Within survey stratum 5, in which the proposed development is located, the harbour porpoise density estimate was highest in summer 2021, where corrected estimates reached 0.4158 animals/km^2. Corrected density estimates reached 0.262 and 0.379 animals/km^2 for Summer 2022 and Winter respectively.

Table A4.3 Harbour porpoise groups, design-based and model-based density (#/km^2) and abundance estimates for stratum 5 of the ObSERVE 1 and 2 surveys (Rogan *et al.*, 2018 and Giralt Paradell *et al.*, 2024).

Survey	Corrected design based estimates		Corrected model based estimates	
	Density	Abundance	Density	Abundance
Summer 2015	0.696	7,734	0.675	7,495
Winter 2015-16	0.867	9,636	NA	
Summer 2016	1.046	11,624	0.942	10,466
Winter 2016-17	0.924	10,263	NA	
Summer 2021	0.968	10,655	0.416	4,339
Summer 2022	0.150	1,653	0.262	2,738
Winter 2022	0.413	4,547	0.379	3,822

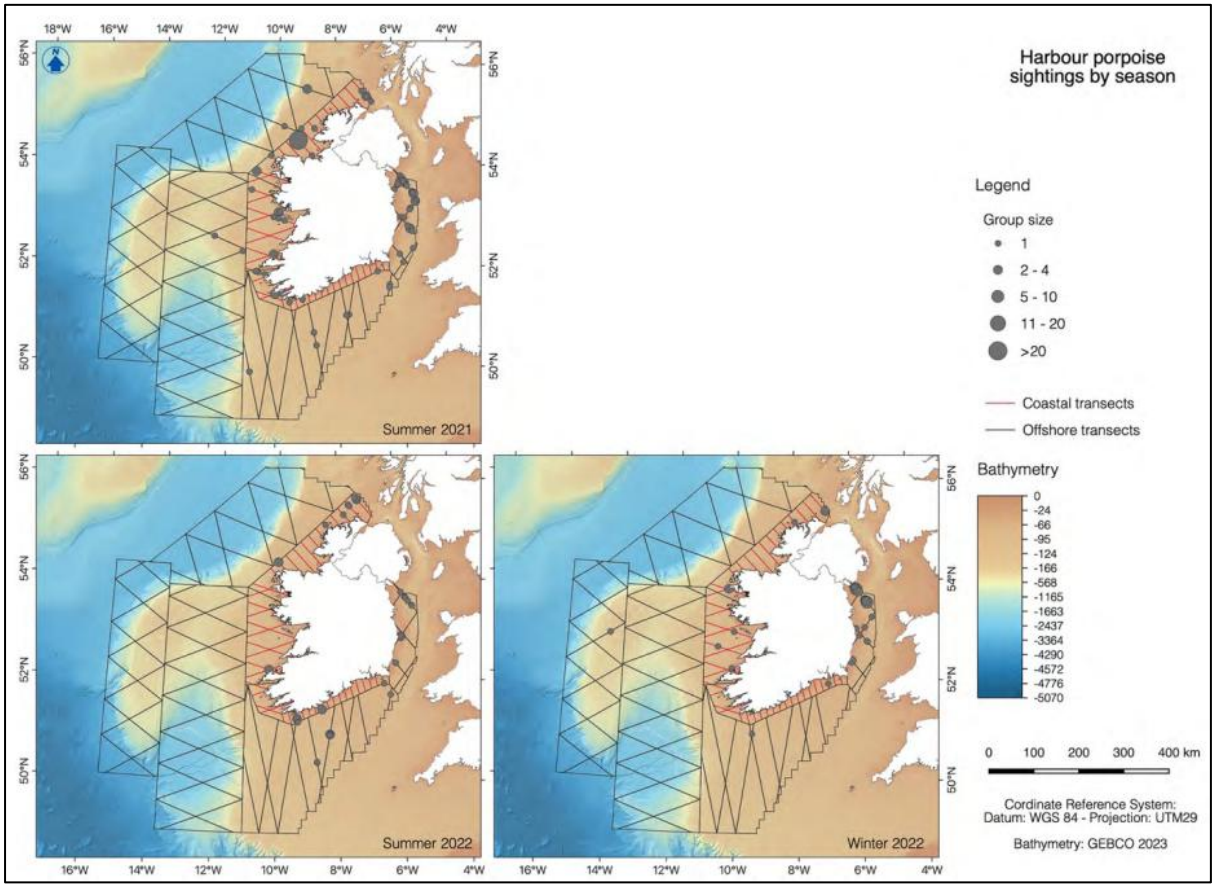

Figure A 4-1 Sightings of harbour porpoise across all surveys (top) and in each survey period (bottom). Note that no surveys were carried out in winter 2021. Grey lines indicate the survey tracklines in the offshore strata and red lines indicate the tracklines in the coastal strata. Circles are proportional to the number of porpoises in each sighting. Figure from Giralt Paradell *et al.* (2024).

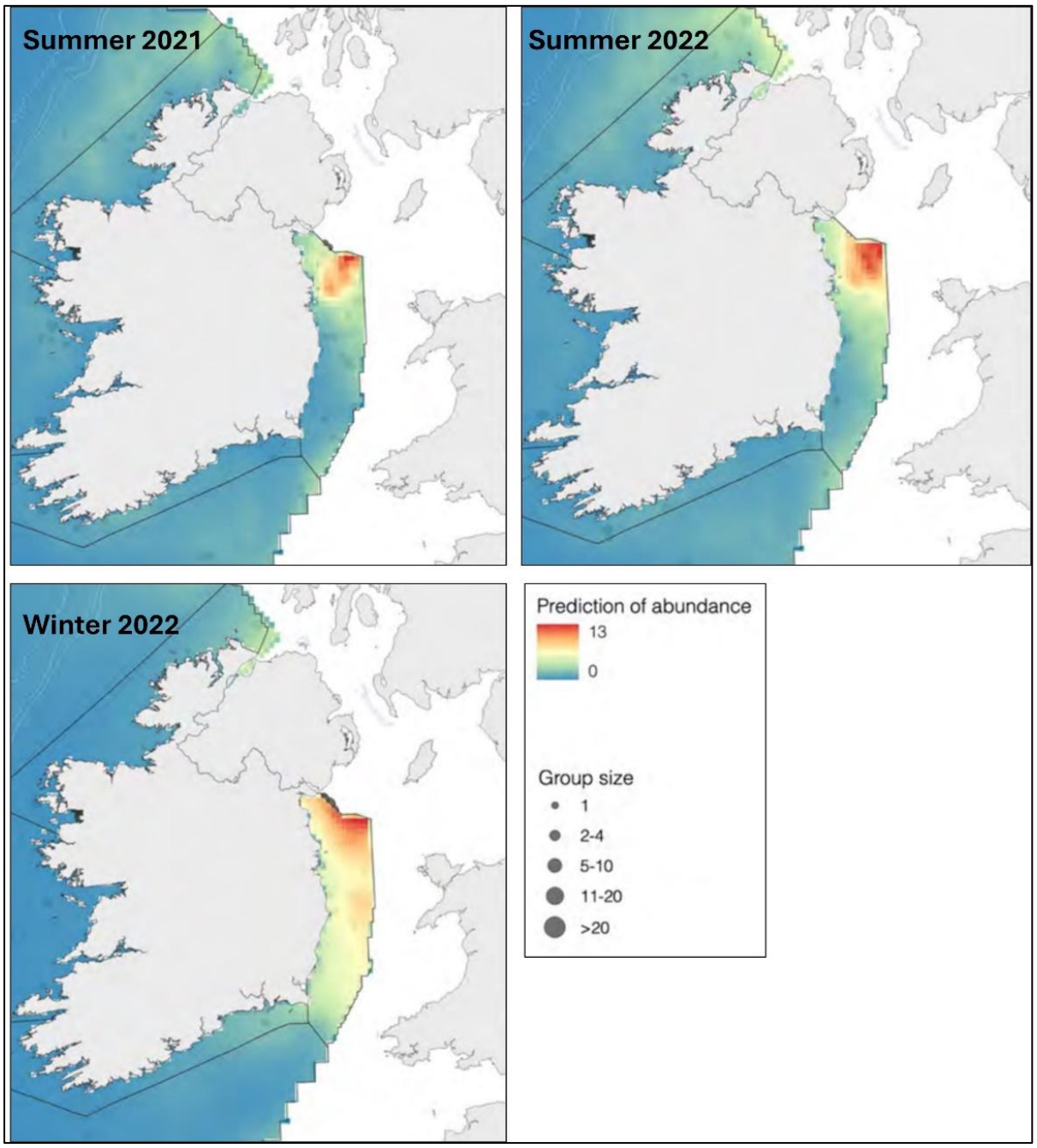

Figure A4-2 Predicted density distributions of harbour porpoise for Summer 2021 (top left), Summer 2022 (top right) and Winter (bottom left). Figures from Giralt Paradell *et al.* (2024).

4.3 Distribution and abundance of cetaceans in Wales and its adjacent waters

There are no changes to this section. Refer to Section 4.3 of Appendix 14.2 in the 2024 EIAR.

4.4 SCANS

The text on SCANS in Section 4.4 of Appendix 14.2 in the EIAR remains unchanged. Refer to Section 4.4 of Appendix 14.2 in the 2024 EIAR.

4.4.1 SCANS IV density surface

The following section has been added to the end of Section 4.4.1 as a result of the publication of the new SCANS IV density surface.

Gilles *et al*. (2025) used the SCANS IV data and spatially referenced environmental features to predict density estimates for harbour porpoises. This shows that the predicted SCANS IV harbour porpoise distribution across the Irish Sea is not uniform. The highest densities are predicted in the eastern and northeastern Irish Sea, closer to the west coasts of England. When compared with the SCANS IV block-wide (CS-D) uniform density estimate (0.2803 porpoise/km^2), the SCANS IV density surface estimates are more representative of real-world species habitat use. Using the SCANS IV density surface, the densities of harbour porpoise in the vicinity of the NISA array area and OECC are relatively low, with values <0.25 harbour porpoise/km^2 (Figure A4-3). The maximum, minimum and average densities of harbour porpoise within the NISA array area and OECC are summarised in Figure A 4-1.

Figure A 4-1 The maximum, minimum and average densities of harbour porpoise within the NISA array area and OECC.

Location	Maximum Density (animals/km^2)	Minimum Density (animals/km^2)	Average Density (animals/km^2)
OECC	0.1446	0.0487	0.0945
Array Area	0.1688	0.1357	0.1540

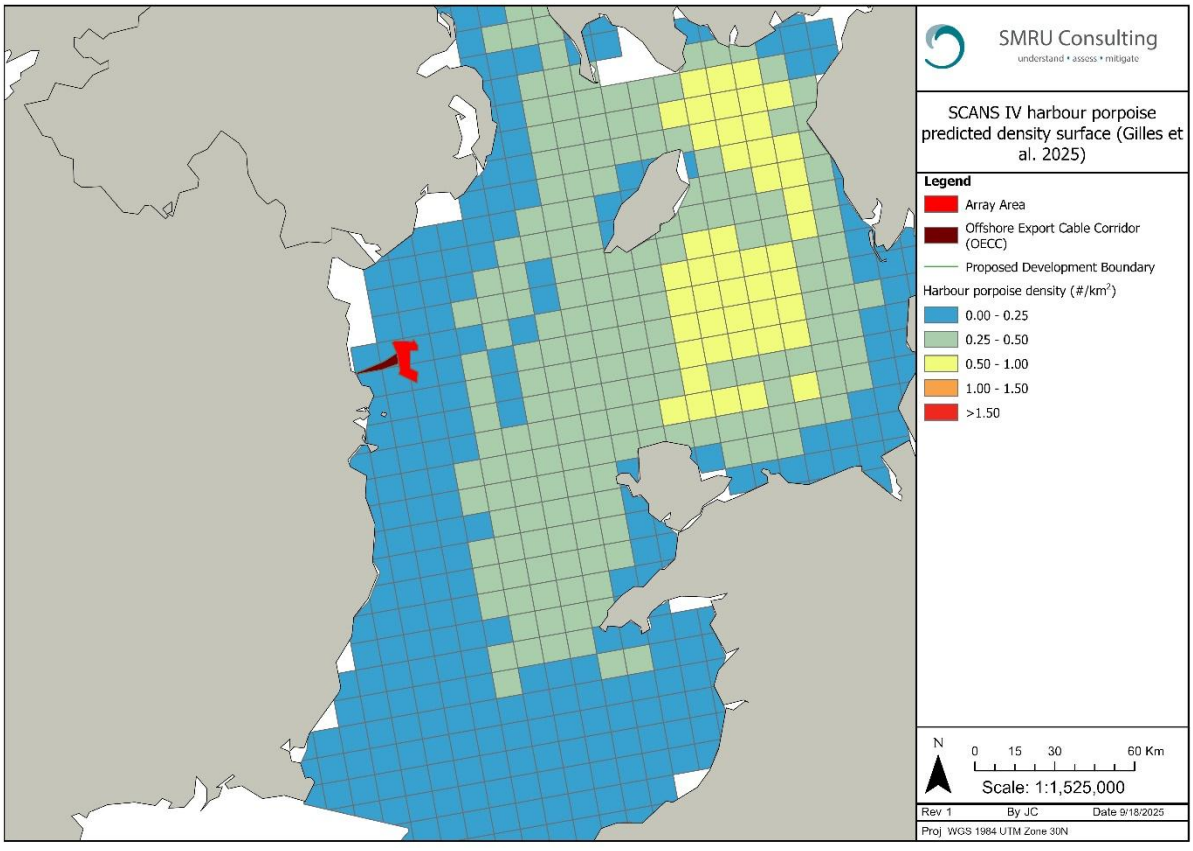

Figure A4-3 Predicted density surface for harbour porpoise. Data from Gilles *et al.* (2025).

4.5 4.5 IWDG Surveys

There are no changes to this section. Refer to Section 4.5 of Appendix 14.3 in the 2024 EIAR.

4.6 Irish Marine Mammal Atlas

There are no changes to this section. Refer to Section 4.6 of Appendix 14.3 in the 2024 EIAR.

4.7 Other OWFs

There are no changes to this section. Refer to Section 4.7 of Appendix 14.3 in the 2024 EIAR.

4.8 Seasonality

There are no changes to this section. Refer to Section 4.8 of Appendix 14.3 in the 2024 EIAR.

4.9 Summary

The changes in this section are required as a result of the new harbour porpoise baseline data. Therefore, Section 4.9 and Table 11 within Appendix 14.2 in the 2024 EIAR shall be deleted and replaced with the text below and Table A4.4.

The 2024-2025 DAS provide the most recent, fine scale density estimates relevant to impacts from the NISA OWF. The quantitative impact assessment in the EIAR will present impacts using both the maximum density across the 12 months, and the average density across the 12 months.

Table A4.4 Summary of the harbour porpoise density data (Replaces Table 11 in Appendix 14.2 of the 2024 EIAR)

Data source	Reference	Density (#/km^2)
2024-2025 DAS	**APEM**	**Maximum: 0.39** **Average: 0.21**
SCANS IV density surface	Gilles *et al.* (2025)	Grid cell specific 0.1357 – 0.1688 in the vicinity of array area 0.0487 – 0.1446 in the vicinity of OECC
ObSERVE2 Summer Stratum 5	Giralt Paradell *et al.* (2024)	2021: 0.4158 2022: 0.262
ObSERVE2 Winter Stratum 5		0.379
Site specific surveys (2020-2022)	Natural Power and APEM	Average: 0.38
SCANS IV block CS-D	Gilles *et al.* (2023)	0.2803
SCANS III block E	Hammond *et al.* (2021)	0.239
SCANS III density surface	Lacey *et al.* (2022)	Grid cell specific 0.25-0.50 in NISA array area and ECC
SCANS II block O	Hammond *et al.* (2013)	0.335
ObSERVE summer stratum 5	Rogan *et al.* (2018)	Season 1: 0.696 Season 3: 1.046
ObSERVE winter stratum 5	Rogan *et al.* (2018)	Season 2: 0.867 Season 4: 0.924
Welsh and Irish Sea distribution	Evans and Waggitt (2023)	Grid cell specific 0.3-0.4 in NISA array area
IWDG Irish Sea Block A	Berrow *et al.* (2011)	1.585
IWDG North County Dublin	Berrow *et al.* (2008)	2.03
IWDG Dublin Bay	Berrow *et al.* (2008)	1.19
IWDG Rockabill to Dalkey Island SAC (2021)	Berrow *et al.* (2021)	0.83

Data source	Reference	Density (#/km^2)
IWDG Rockabill to Dalkey Island SAC (2016)	O'Brien and Berrow (2016)	1.55
IWDG Rockabill to Dalkey Island SAC (2013)	Berrow and O'Brien (2013)	1.474

5 Bottlenose dolphins

5.1 Proposed development: Site-specific surveys

5.1.1 Vessel surveys

There are no changes to this section. Refer to Section 5.1.1 of Appendix 14.2 in the 2024 EIAR.

5.1.2 Aerial surveys

Section 5.1.2, Aerial Surveys in Appendix 14.2 of the 2024 EIAR remains unchanged. However, it has been expanded to include a new section on the 2024–2025 DAS, which follows on from the text in Section 5.1.2 of the 2024 EIAR.

During the 2024-2025 DAS, only one bottlenose dolphin was sighted during the March 2025 survey, resulting in a density estimate of 0 dolphins/km^2 (95% CIs: 0 – 0.1). In addition, there were 85 unidentified dolphin/porpoise (4.7% of total marine mammal sightings) and 11 unidentified dolphins sighted (0.6% of total marine mammal sightings).

The 2024-2025 DAS validate the result from the previous 2020-2022 site-specific surveys, that bottlenose dolphins are rare in the survey area, and have very low densities when present.

5.2 ObSERVE

The text on ObSERVE 1 in Section 5.2 of Appendix 14.2 in the 2024 EIAR remains unchanged.

5.2.1 ObSERVE 2

The following section has been added as a result of the publication of the new ObSERVE 2 data.

With 112 sightings comprising 472 individuals, bottlenose dolphins were the third most frequently sighted cetacean species across the surveyed area in 2021 and 2022 (Giralt Paradell *et al.*, 2024). Bottlenose dolphins were primarily observed in Stratum 1, 2, 3 & 4, and only sporadically sighted in stratum 5 within which NISA is located. Mean group size varied between strata, but did not deviate much between seasons ranging from 3.9 or 4.2 individuals in the Summers to 4.4 in the Winter (Giralt Paradell *et al.*, 2024). In stratum 5 specifically, mean group size during Summer was 1.2 and no mean group size estimate could be provided for the Winter season.

Density and abundance estimates (both design-based and model-based) per season and per stratum indicate interannual variability between Summer 2021 and Summer 2022, with an abundance of 11,328 bottlenose dolphins in Summer 2021 (95% CIs 8,385- 15,302), which increased to 37,489 in Summer 2022 (95% CIs 30,611-45,913). A Winter abundance estimate of 23,778 bottlenose dolphins (95% CI's 19,156 – 29,516) (CV:28.91) was estimated (Giralt Paradell *et al.*, 2024).

The smallest abundance and density estimates can be seen in the Irish Sea (stratum 5), with predicted distribution of bottlenose dolphin for Summer greatest in the central, coastal sections of stratum 5 (Figure A5-1 and Figure A5-2) (Giralt Paradell *et al.*, 2024). Due to relatively few sightings, the predicted distribution reflects low densities of bottlenose dolphins throughout the Irish Sea for Winter (Giralt Paradell *et al.*, 2024).

Within survey stratum 5, in which the proposed development is located, the bottlenose dolphin (corrected) density estimate was only estimated for Summer 2022 only. The corrected estimate was 0.111 animals/km^2.

Table A5.1 Bottlenose dolphin design-based and model-based density (#/km^2) and abundance estimates for stratum 5 of the ObSERVE 1 and 2 surveys (Rogan *et al.*, 2018 and Giralt Paradell *et al.*, 2024).

Survey	Corrected design based estimates		Corrected model based estimates	
	Density	Abundance	Density	Abundance
Summer 2015	NA		NA	
Winter 2015-16	NA		NA	
Summer 2016	NA		NA	
Winter 2016-17	0.036	401	0.020	223
Summer 2021	NA		NA	
Summer 2022	0.111	1,223	0.059	618
Winter 2022	NA		NA	

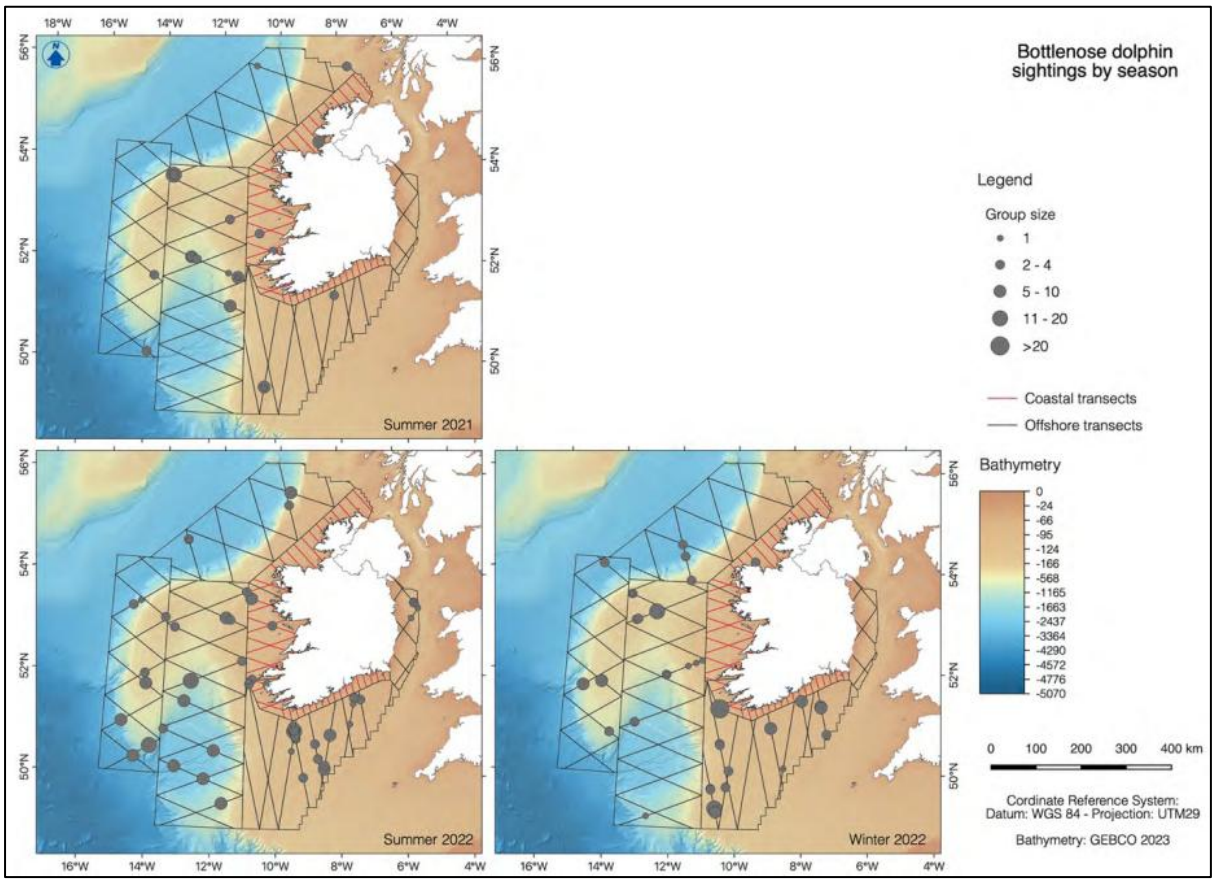

Figure A5-1 Sightings of bottlenose dolphins across all surveys (top) and in each survey period (bottom). Note that no surveys were carried out in winter 2021. Grey lines indicate the survey tracklines in the offshore strata and red lines indicate the tracklines in the coastal strata. Circles are proportional to the number of porpoises in each sighting. Figure from Giralt Paradell *et al.* (2024).

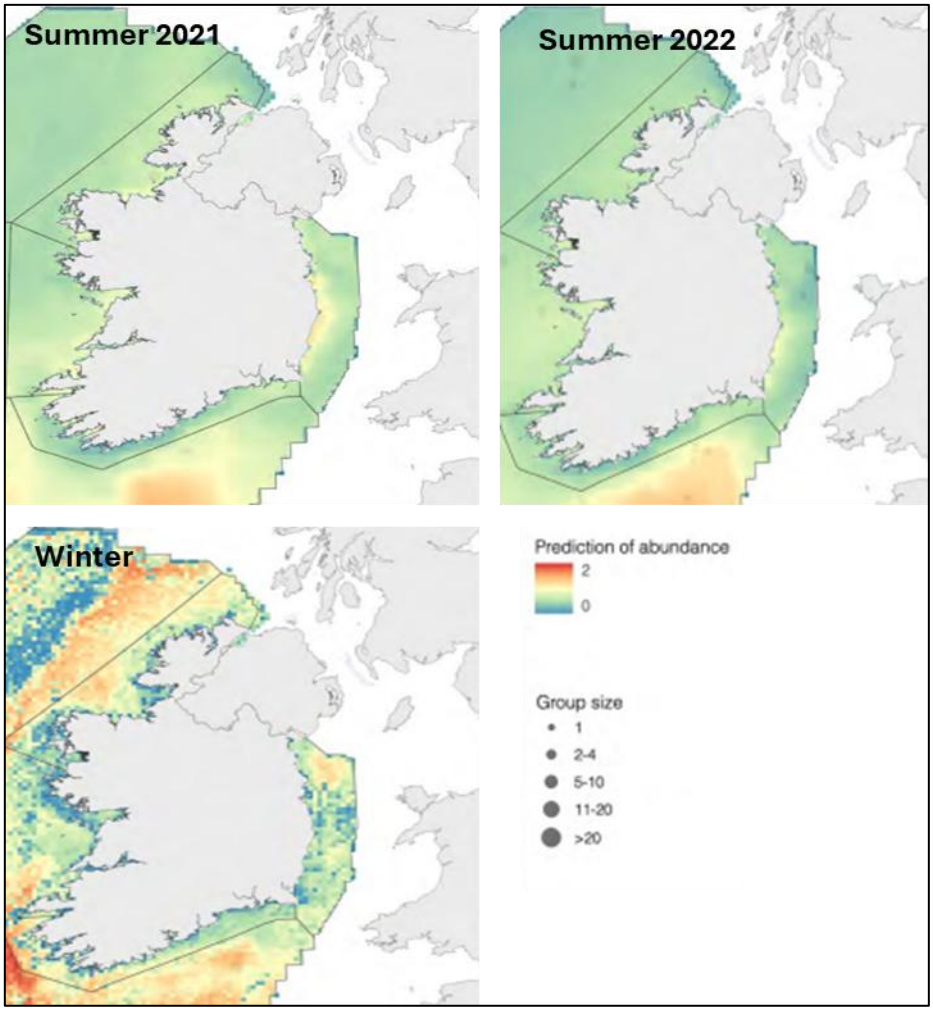

Figure A5-2 Predicted density distributions of bottlenose dolphin for Summer 2021 (top left), Summer 2022 (top right) and Winter (bottom left). Figures from Giralt Paradell *et al.* (2024).

5.3 SCANS

The text on SCANS in Section 5.3 of Appendix 14.2 in the EIAR remains unchanged.

5.3.1 SCANS IV density surface

The following section has been added as a result of the publication of the new SCANS IV density surface.

Gilles *et al*. (2025) used the SCANS IV data and spatially referenced environmental features to predict density estimates for bottlenose dolphins. This shows that the predicted SCANS IV bottlenose dolphin distribution across the Irish Sea is not uniform. The highest densities are predicted in the northwestern Irish Sea close to the Isle of Man, and southern Irish Sea. When compared with the SCANS IV block-wide (CS-D) uniform density estimate (0.2352 dolphins/km^2), the SCANS IV density surface estimates are more representative of real-world species habitat use. Using the SCANS IV density surface, the densities of bottlenose dolphin in the vicinity of the NISA array area and OECC are relatively low, with values <0.25 bottlenose dolphin/km^2 (Figure A5-3). The maximum, minimum and average densities of bottlenose dolphin within the NISA array area and OECC are summarised in Table A5.2.

Table A5.2 The maximum, minimum and average densities of bottlenose dolphin within the NISA array area and OECC.

Location	Maximum Density (animals/km^2)	Minimum Density (animals/km^2)	Average Density (animals/km^2)
OECC	0.1787	0.1577	0.1669
Array Area	0.1712	0.1444	0.1587

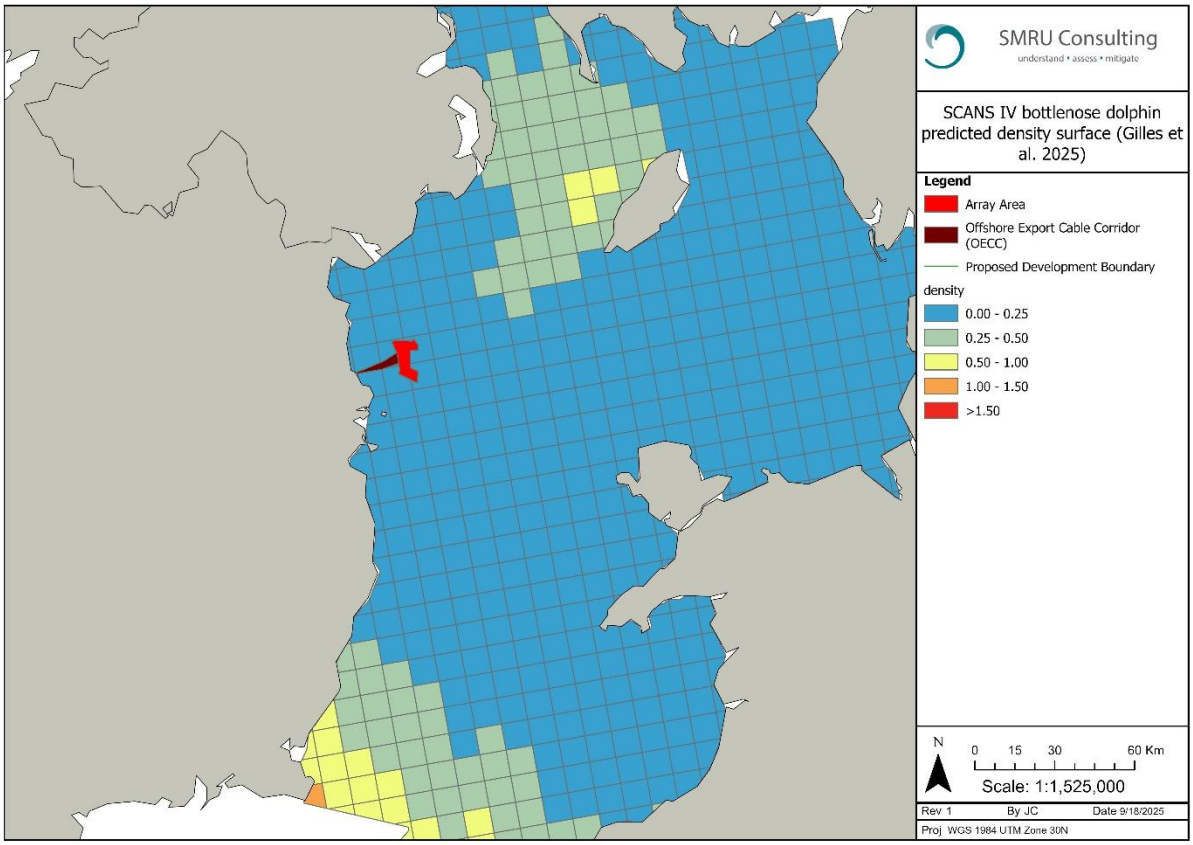

Figure A5-3 Predicted density surface for bottlenose dolphin. Data from Gilles *et al.* (2025).

5.4 Distribution and abundance of cetaceans in Wales and its adjacent waters

There are no changes to this section. Refer to Section 5.4 of Appendix 14.2 in the 2024 EIAR.

5.5 IWDG Surveys

There are no changes to this section. Refer to Section 5.5 of Appendix 14.2 in the 2024 EIAR.

5.6 Irish Marine Mammal Atlas

There are no changes to this section. Refer to Section 5.6 of Appendix 14.2 in the 2024 EIAR.

5.7 Other OWFs

There are no changes to this section. Refer to Section 5.7 of Appendix 14.2 in the 2024 EIAR.

5.8 Seasonality

There are no changes to this section. Refer to Section 5.8 of Appendix 14.2 in the 2024 EIAR.

5.9 Summary

The changes in this section are required as a result of the new bottlenose dolphin baseline data. Therefore, Section 5.9 and Table 14 within Appendix 14.2 in the 2024 EIAR shall be deleted and replaced with the text below and Table A5.3.

The Gilles *et al.* (2025) SCANS IV density surface is considered the best representation of bottlenose dolphin density for use in the EIAR. It should be noted that the Gilles *et al.* (2025) SCANS IV density surface is the most up-to-date density estimate for bottlenose dolphins in the Irish Sea, and thus, supersedes those reported as part of SCANS III (Hammond *et al.*, 2017, Lacey *et al.*, 2022) and by Evans and Waggitt (2023).

Table A5.3 Bottlenose dolphin density estimates (dolphins/km^2) (Replaces Table 14 in Appendix 14.2 of the 2024 EIAR)

Data source	Reference	Density estimate
2024-2025 DAS	APEM	0
SCANS IV density surface	**Gilles *et al.* (2025)**	**Grid cell specific Max 0.1787 in ECC Max 0.1712 in array area**
ObSERVE2 Summer Stratum 5	Giralt Paradell *et al.* (2024)	2021: N/A 2022: 0.111
ObSERVE2 Winter Stratum 5		N/A
Site specific surveys (2020-2022)	Natural Power and APEM	0.002
SCANS IV block CS-D	Gilles *et al.* (2023)	0.2352
SCANS III block E	Hammond *et al.* (2021)	0.008
SCANS III density surface	Lacey *et al.* (2022)	Grid cell specific 0.25-0.50 in the vicinity of the NISA array area and ECC
SCANS II block O	Hammond *et al.* (2013)	0.005
ObSERVE summer stratum 5	Rogan *et al.* (2018)	0
ObSERVE winter stratum 5	Rogan *et al.* (2018)	Season 2: 0 Season 4: 0.02
Welsh and Irish Sea distribution	Evans and Waggitt (2023)	Grid cell specific 0.0066 in the NISA array area

6 Risso's dolphin

6.1 Proposed development: Site-specific surveys

6.1.1 Vessel surveys

There are no changes to this section. Refer to Section 6.1.1 of Appendix 14.2 in the 2024 EIAR.

6.1.2 Aerial surveys

Section 6.1.2, Aerial Surveys in Appendix 14.2 of the 2024 EIAR remains unchanged. However, it has been expanded to include a new section on the 2024–2025 DAS, which follows on from the text in Section 6.1.2 of the 2024 EIAR.

No Risso's dolphins were identified during the 2024-2025 DAS. However, there were 85 unidentified dolphin/porpoise (4.7% of total marine mammal sightings) and 11 unidentified dolphins sighted (0.6% of total marine mammal sightings) which could have included Risso's dolphins.

The new 2024-2025 DAS validate the result from the previous 2020-2022 site-specific surveys which also detected no Risso's dolphins.

6.2 ObSERVE

The text on ObSERVE 1 in Section 6.2 of Appendix 14.2 in the 2024 EIAR remains unchanged.

6.2.1 ObSERVE 2

The following section has been added as a result of the publication of the new ObSERVE 2 data.

A total of 30 sightings comprising 91 individuals of Risso's dolphin were observed across the surveyed area in 2021 and 2022 (Giralt Paradell *et al.*, 2024). Risso's dolphin were primarily observed in Stratum 1, 2, 3 & 4. Risso's dolphins were sighted in both continental shelf waters and beyond the continental slope. Group size varied from one to 15 individuals, with larger group sizes recorded in Winter. Small groups of one to three individuals were more frequently sighted (Giralt Paradell *et al.*, 2024). Only one group of Risso's dolphin were sighted in stratum 5 (Summer 2022) throughout the survey period. This single group had a mean group size of four individuals (Giralt Paradell *et al.*, 2024).

Density and abundance estimates (design-based only) per season and per stratum indicate interannual variability between Summer 2021 and Summer 2022, with an abundance of 1,947 (95% CIs 1,369 – 2,769) in Summer 2021, and 3,315 (95% CIs 2,479 - 4,434) in Summer 2022. A Winter abundance estimate of 5,024 individuals (95% CIs 3,447 – 7,324) was estimated (Giralt Paradell *et al.*, 2024).

Within survey stratum 5, in which the proposed development is located, the Risso's dolphin (corrected) density estimate was only estimated for Summer 2022 only as no Risso's dolphins were sighted during the other surveys. The corrected estimate for summer 2022 was 0.027 animals/km^2.

Table A6.1 Risso's dolphin groups, design-based and model-based density (#/km^2) and abundance estimates for stratum 5 of the ObSERVE 1 and 2 surveys (Rogan *et al*., 2018 and Giralt Paradell *et al*., 2024).

Survey	Corrected design based estimates		Corrected model based estimates	
	Density	Abundance	Density	Abundance
Summer 2015	0.003	35	No abundance estimates were generated due to the low number of sightings	
Winter 2015-16	Not sighted in stratum 5			
Summer 2016	Not sighted in stratum 5			
Winter 2016-17	Not sighted in stratum 5			
Summer 2021	Not sighted in stratum 5		No abundance estimates were generated due to the low number of sightings	
Summer 2022	0.027	292		
Winter 2022	Not sighted in stratum 5			

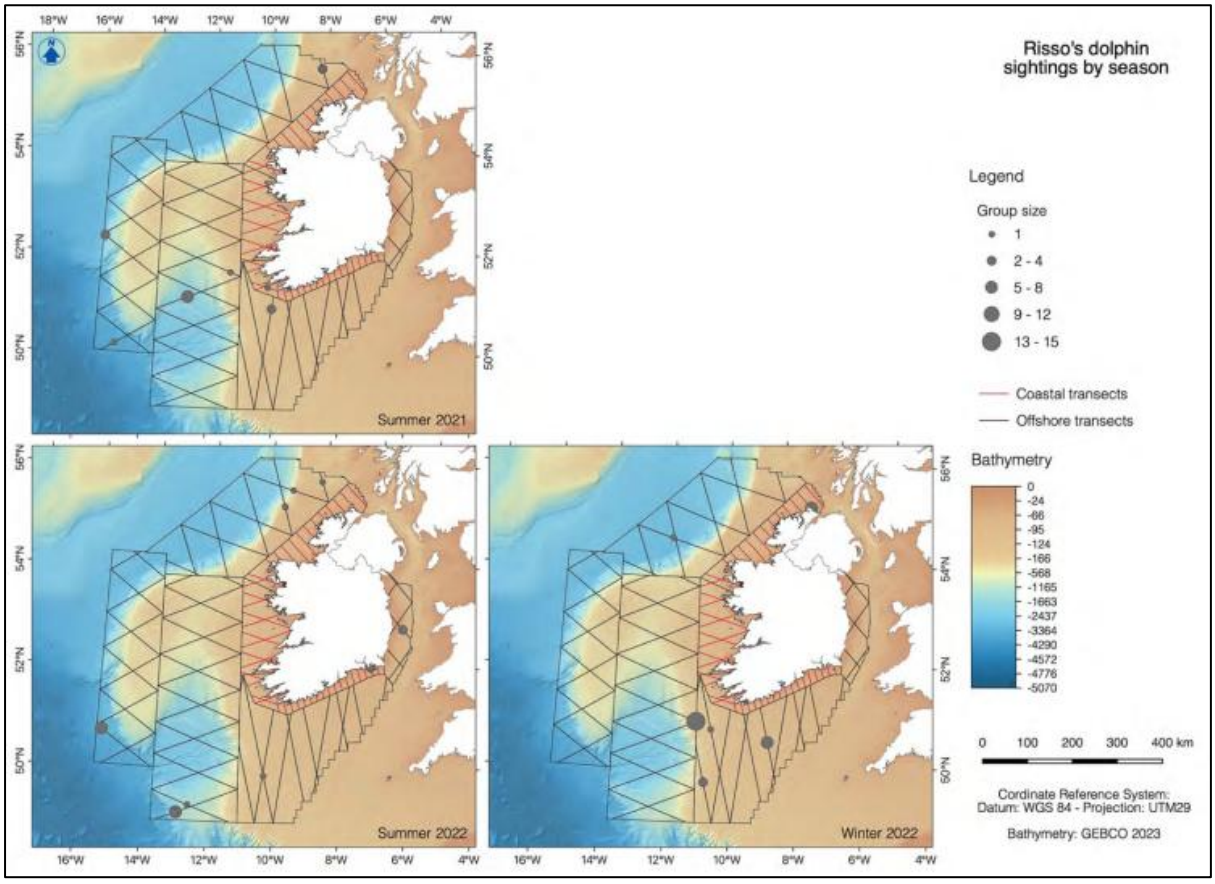

Figure A6-1 Sightings of Risso's dolphin across all surveys (top) and in each survey period (bottom). Note that no surveys were carried out in winter 2021. Grey lines indicate the survey tracklines in the offshore strata and red lines indicate the tracklines in the coastal strata. Circles are proportional to the number of porpoises in each sighting. Figure from Giralt Paradell *et al.* (2024).

6.3 Distribution and abundance of cetaceans in Wales and its adjacent waters

There are no changes to this section. Refer to Section 6.3 of Appendix 14.2 in the 2024 EIAR.

6.4 SCANS

There are no changes to this section. Refer to Section 6.4 of Appendix 14.2 in the 2024 EIAR.

6.5 IWDG Surveys

There are no changes to this section. Refer to Section 6.5 of Appendix 14.2 in the 2024 EIAR.

6.6 Irish Marine Mammal Atlas

There are no changes to this section. Refer to Section 6.6 of Appendix 14.2 in the 2024 EIAR.

6.7 Other OWFs

There are no changes to this section. Refer to Section 6.7 of Appendix 14.2 in the 2024 EIAR.

6.8 Seasonality

There are no changes to this section. Refer to Section 6.8 of Appendix 14.2 in the 2024 EIAR.

6.9 Summary

The changes in this section are required as a result of the new Risso's dolphin baseline data. Therefore, Section 6.9 within Appendix 14.2 in the 2024 EIAR shall be deleted and replaced with the text below.

The ObSERVE2 density estimate (0.027 dolphins/km^2) represents the most up-to-date, and largest density estimate for Risso's dolphins in the Irish Sea and is considered appropriate for use in the EIAR assessment.

7 Short-beaked common dolphin

7.1 Proposed development: Site-specific surveys

7.1.1 Vessel surveys

There are no changes to this section. Refer to Section 7.1.1 of Appendix 14.2 in the 2024 EIAR.

7.1.2 Aerial surveys

Section 7.1.2, Aerial Surveys in Appendix 14.2 of the 2024 EIAR remains unchanged. However, it has been expanded to include a new section on the 2024–2025 DAS, which follows on from the text in Section 7.1.2 of the 2024 EIAR.

During the 2024-2025 DAS, a total of 487 common dolphins (26.8% of total marine mammal sightings) were recorded. In addition, there were 85 unidentified dolphin/porpoise sightings (4.7% of total marine mammal sightings) and 11 unidentified dolphins sighted (0.6% of total marine mammal sightings). Common dolphin sightings were highly variable, with between 0 and 130 individuals sighted during a survey. The greatest number of sightings occurred in September, which was also when the highest density was estimated (0.33 dolphins/km^2). The average density estimate across all surveys was 0.10 dolphins/km^2. When examining the seasonal trend, densities were highest during the autumn (0.19 dolphins/km^2) (Table A7.1).

The resulting density estimates from the 2024-2025 DAS are higher than those calculated from the 2020-2022 site-specific surveys (Table A7.2). The average density from the 2020-2022 site-specific surveys was 0.04 dolphins/km^2, with highest densities in the spring months (0.09 dolphins/km^2),

whereas the average density from the 2024-2025 DAS was 0.10 dolphins/km^2, with highest densities in the Autumn months (0.19 dolphins/km^2). When comparing density estimates between the 2020-2022 site specific surveys and the 2024-2025 DAS it is important to note that the survey areas are not the same and thus do not provide a like for like comparison.

Table A7.1 Short-beaked common dolphin sightings and calculated densities during the 2024 - 2025 DAS.

Survey	Month	Sightings (raw)	Absolute density (dolphins/km^2)	Density Confidence Intervals
1	Sep 24	130	0.33	0 – 0.94
2	Oct 24	11	0.03	0 – 0.08
3	Nov 24	94	0.2	0.03 – 0.47
4	Dec 24	10	0.03	0 – 0.07
5	Jan 25	40	0.1	0.03 – 0.20
6	Feb 25	6	0.02	0 – 0.05
7	Mar 25	20	0.05	0 – 0.11
8	Apr 25	39	0.11	0.03 – 0.21
9	May 25	21	0.06	0 – 0.14
10	Jun 25	71	0.18	0.02 – 0.37
11	Jul 25	14	0.04	0 – 0.10
12	Aug 25	31	0	0 – 0.21

Table A7.2 Common dolphin calculated densities from the new 2024-2025 DAS compared to the previous 2010-2022 site-specific surveys

	Season	Months	2020 –2022 site-specific surveys	2024 – 2025 DAS
Average	All	All months	0.04	0.10
Average	Autumn	Sep, Oct, Nov	0.03	0.19
Average	Winter	Dec, Jan, Feb	0.04	0.05
Average	Spring	Mar, Apr, May	0.09	0.07
Average	Summer	Jun, Jul, Aug	0.00	0.10

7.2 ObSERVE

The text on ObSERVE 1 in Section 7.2 of Appendix 14.2 in the EIAR remains unchanged.

7.2.1 ObSERVE 2

The following section has been added as a result of the publication of the new ObSERVE 2 data.

With 812 sightings comprising 5,725 individuals, common dolphins were the most frequently sighted cetacean species across the surveyed area in 2021 and 2022 (Giralt Paradell *et al.*, 2024). Common dolphins were observed in all strata, but were infrequently observed in stratum 5 within which NISA is located. Common dolphin occurrence showed interannual variability, with considerably more sightings in Summer 2021 than in 2022. Common dolphins were typically observed in groups, with a mean group size of 7.2 individuals in Summer and 6.7 in Winter. In stratum 5 specifically, mean group size during Summer was 1.0 and 4.0 for the Winter season (Giralt Paradell *et al.*, 2024).

Density and abundance estimates (both design-based and model-based). Design-based estimates ranged from 594,293 common dolphins (95% CIs 487,570 – 724,375) in Summer 2021 to 289,893 (95% CIs 237,650- 353,621) in Summer 2022. The Winter estimate from the design-based 2022 approach was 256,142 individuals (95% CI's 205,917 – 318,618) (Giralt Paradell *et al.*, 2024).

Predicted distribution maps for Summer show common dolphins widely distributed throughout Irish waters, primarily in continental shelf waters along the west coast and across the Celtic Basin (Figure A7-1 and Figure A7-2) (Giralt Paradell *et al.*, 2024). Predicted distribution maps for Winter highlighted that common dolphin are widespread across the study area in comparatively lower densities as compared to the Summer distribution (Giralt Paradell *et al.*, 2024).

Within survey stratum 5, in which the proposed development is located, the corrected density estimate was only estimated for Summer 2022 only, and Winter. The corrected estimate was 0.020 animals/km^2 in Summer 2022, and 0.066 animals/km^2.

Table A7.3 Common dolphin groups, design-based and model-based density (#/km^2) and abundance estimates for stratum 5 of the ObSERVE 1 and 2 surveys (Rogan *et al.*, 2018 and Giralt Paradell *et al.*, 2024).

Survey	Corrected design based estimates		Corrected model based estimates	
	Density	Abundance	Density	Abundance
Summer 2015	NA		NA	
Winter 2015-16	NA		NA	
Summer 2016	NA		NA	
Winter 2016-17	NA		NA	
Summer 2021	NA		NA	
Summer 2022	0.020	216	0.411	4,307
Winter 2022	0.066	725	0.762	8,363

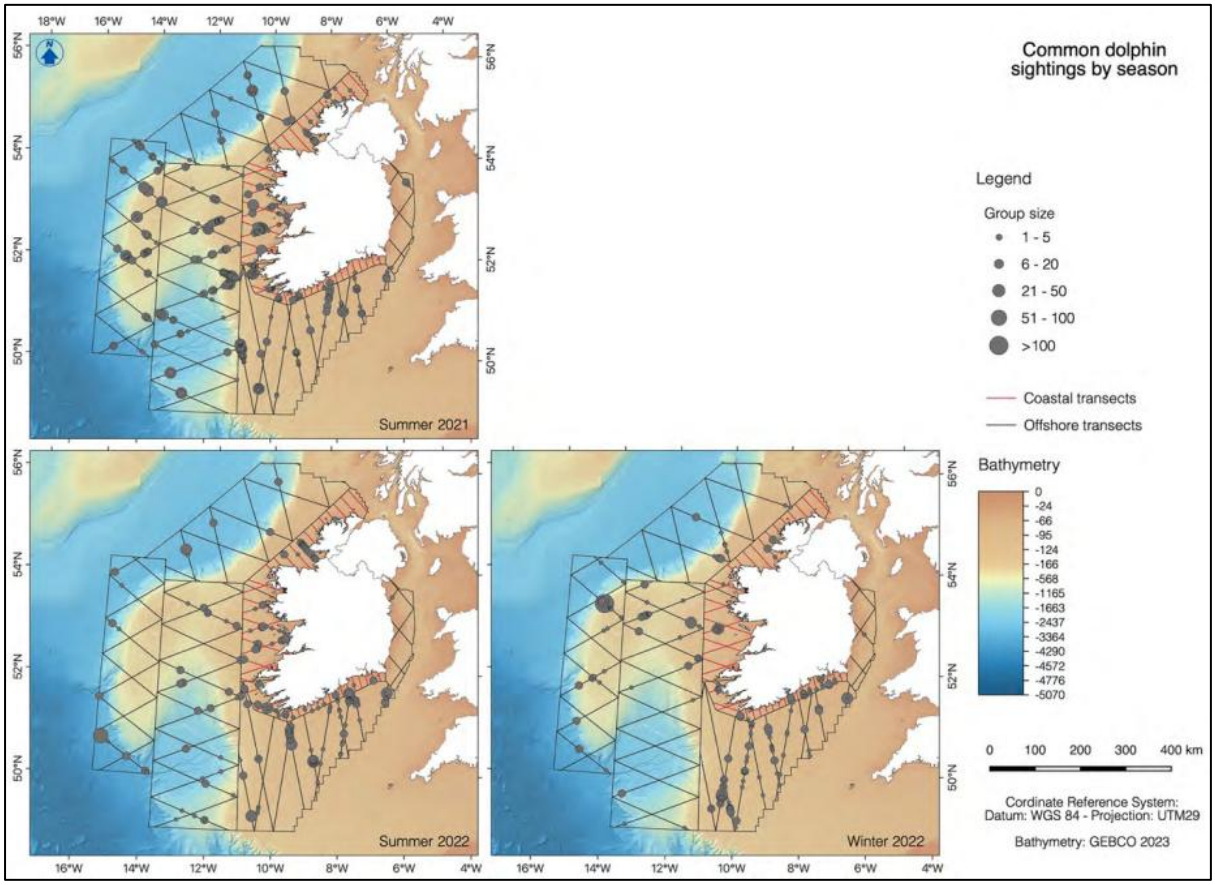

Figure A7-1 Sightings of common dolphin across all surveys (top) and in each survey period (bottom). Note that no surveys were carried out in winter 2021. Grey lines indicate the survey tracklines in the offshore strata and red lines indicate the tracklines in the coastal strata. Circles are proportional to the number of porpoises in each sighting. Figure from Giralt Paradell *et al.* (2024).

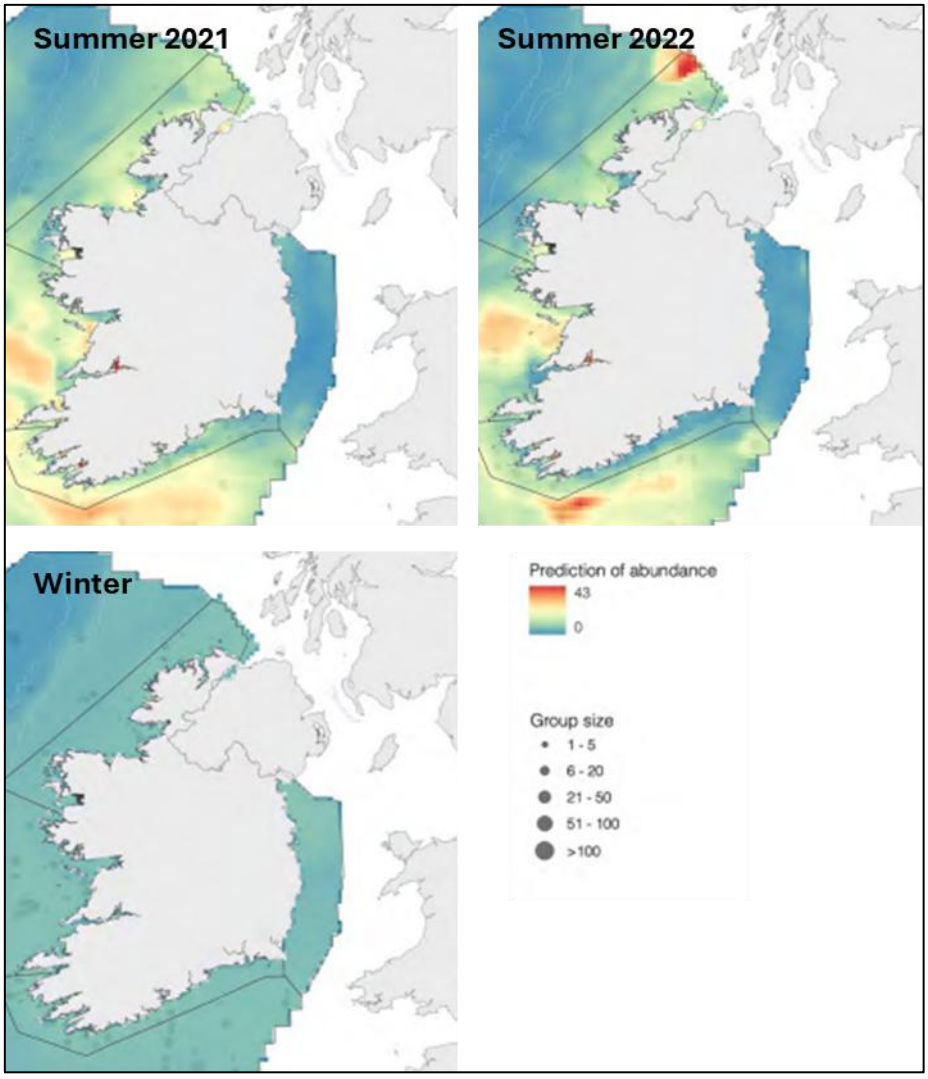

Figure A7-2 Predicted density distributions of common dolphin for Summer 2021 (top left), Summer 2022 (top right) and Winter (bottom left). Figures from Giralt Paradell *et al.* (2024).

7.3 Distribution and abundance of cetaceans in Wales and its adjacent waters

There are no changes to this section. Refer to Section 7.3 of Appendix 14.2 in the 2024 EIAR.

7.4 SCANS

The text on SCANS in Section 7.4 of Appendix 14.2 in the 2024 EIAR remains unchanged.

7.4.1 SCANS IV density surface

The following section has been added as a result of the publication of the new SCANS IV density surface.

Gilles *et al*. (2025) used the SCANS IV data and spatially referenced environmental features to predict density estimates for common dolphins. This shows that the predicted SCANS IV common dolphin distribution across the Irish Sea is not uniform. The highest densities are predicted in the western Irish Sea closest to shore. Particularly high densities are found in the south Irish Sea. When compared with the SCANS IV block-wide (CS-D) uniform density estimate (0.0272 dolphins/km^2), the SCANS IV density surface estimates are more representative of real-world species habitat use. Using the SCANS IV

density surface, the densities of common dolphin in the vicinity of the NISA array area and OECC are relatively low, with values between 0.05-0.10 common dolphin/km^2 (Figure A7-3). This represents a grid-cell specific density estimate greater than the value of the uniform density estimate from Gilles *et al.* (2023).

The maximum, minimum and average densities of common dolphin within the NISA array area and OECC are summarised in Table A7.4.

Table A7.4 The maximum, minimum and average densities of common dolphin within the NISA array area and OECC.

Location	Maximum Density (animals/km^2)	Minimum Density (animals/km^2)	Average Density (animals/km^2)
OECC	0.0715	0.0628	0.0675
Array Area	0.0687	0.0504	0.0602

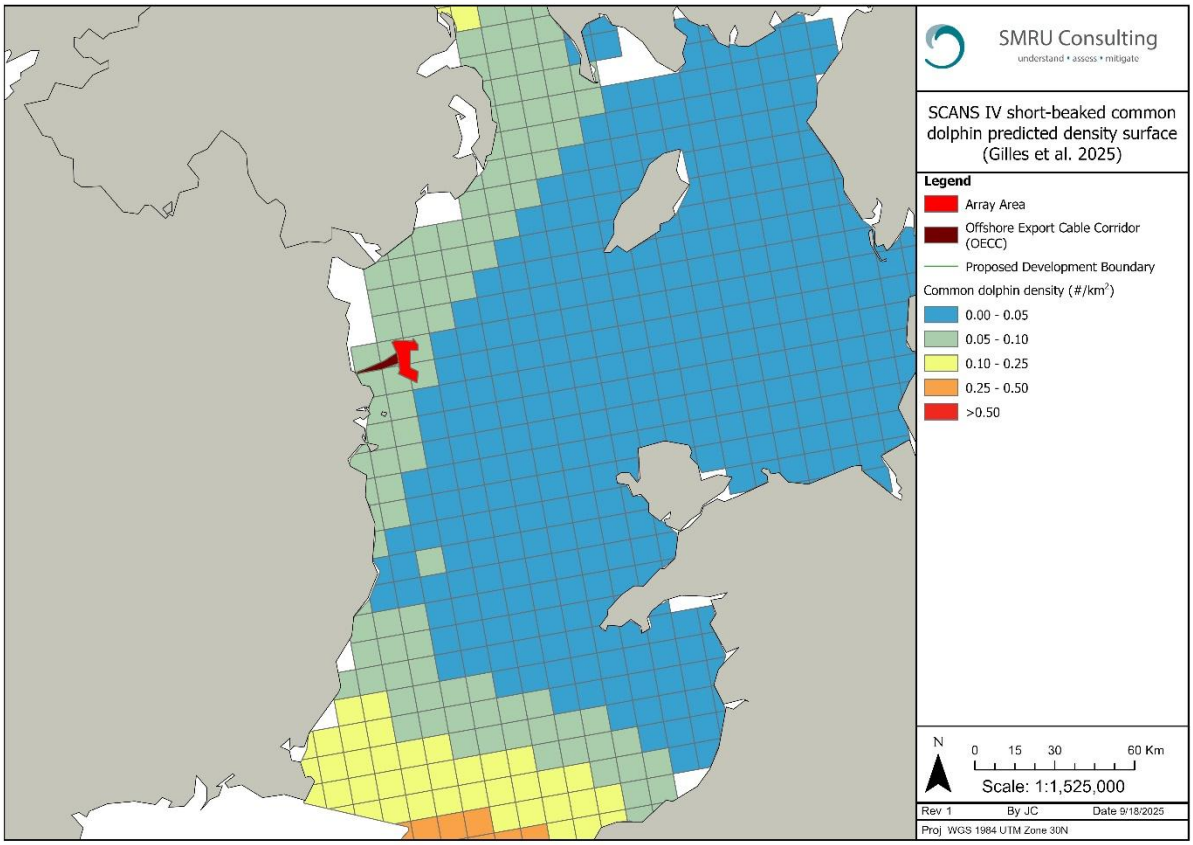

Figure A7-3 Predicted density surface for common dolphins. Data from Gilles *et al.* (2025).

7.5 IWDG Surveys

There are no changes to this section. Refer to Section 7.5 of Appendix 14.2 in the 2024 EIAR.

7.6 Irish Marine Mammal Atlas

There are no changes to this section. Refer to Section 7.6 of Appendix 14.2 in the 2024 EIAR.

7.7 Other OWFs

There are no changes to this section. Refer to Section 7.7 of Appendix 14.2 in the 2024 EIAR.

7.8 Seasonality

There are no changes to this section. Refer to Section 7.8 of Appendix 14.2 in the 2024 EIAR.

7.9 Summary

The changes in this section are required as a result of the new common dolphin baseline data. Therefore, Section 7.9 and Table 17 within Appendix 14.2 in the 2024 EIAR shall be deleted and replaced with the text below and Table A7.5.

The 2024-2025 DAS provide the most recent, fine scale density estimates relevant to impacts from the NISA OWF. The quantitative impact assessment in the EIAR will present impacts based on both the maximum density across the 12 months, and the average density across the 12 months.

Table A7.5 Common dolphin density estimates (dolphins/km^2) (Replaces Table 17 in Appendix 14.2 of the 2024 EIAR)

Data source	Reference	Density estimate
2024-2025 DAS	**APEM**	**Maximum: 0.33** **Average: 0.10**
SCANS IV density surface	Gilles *et al.* (2025)	Grid cell specific Max 0.0715 in ECC Max 0.0687 in array area
ObSERVE2 Summer Stratum 5	Giralt Paradell *et al.* (2024)	2021: N/A 2022: 0.020
ObSERVE2 Winter Stratum 5		0.066
Site specific surveys (2020-2022)	Natural Power and APEM	0.04
SCANS IV block CS-D	Gilles *et al*. (2023)	0.0272
SCANS III block E	Hammond *et al.* (2021)	0
SCANS III density surface	Lacey *et al.* (2022)	Grid cell specific 0.0-0.07 in the vicinity of NISA array and ECC
SCANS II block O	Hammond *et al.* (2013)	0.018
ObSERVE summer stratum 5	Rogan *et al.* (2018)	0
ObSERVE winter stratum 5	Rogan *et al.* (2018)	0
Welsh and Irish Sea distribution	Evans and Waggitt (2023)	Grid cell specific 0.028 in NISA array area

8 Minke whale

8.1 Proposed development: Site-specific surveys

8.1.1 Vessel surveys

There are no changes to this section. Refer to Section 8.1.1 of Appendix 14.2 in the 2024 EIAR.

8.1.2 Aerial surveys

Section 8.1.2, Aerial Surveys in Appendix 14.2 of the 2024 EIAR remains unchanged. However, it has been expanded to include a new section on the 2024–2025 site-specific aerial surveys, which follows on from the text in Section 8.1.2 of the 2024 EIAR.

During the 2024-2025 DAS, a total of 3 minke whales (0.2% of total marine mammal sightings) were recorded. These all occurred during the last three months of aerial survey (June to August 2025) with one sighting per month. This resulted in an average density estimate of 0.0 whales/km^2 (95% CIs: 0.0 – 0.1).

The new 2024-2025 DAS validate the result from the previous 2020-2022 site-specific surveys, that minke whales are rare in the survey area.

8.2 ObSERVE

The text on ObSERVE 1 in Section 8.2 of Appendix 14.2 in the 2024 EIAR remains unchanged.

8.2.1 ObSERVE 2

The following section has been added as a result of the publication of the new ObSERVE 2 data.

A total of 39 minke whales in 39 sightings were sighted in all three seasons. This species was observed in all strata, except for stratum 6A (Giralt Paradell *et al.*, 2024).

Most of the sightings were in continental shelf waters <200m. Model-based abundance estimates were generated for Summer, no model-based estimates were generated for Winter due to low number of sightings. Interannual variation was shown between Summer 2021 and Summer 2022 from both the model and design-based estimates, with Summer 2021 twice the estimate from Summer 2022. Density and abundance estimates (design-based approach) estimates for the two seasons are as follows: Summer 2021 4,566 individuals (95% CIs 3,212 – 6,492) compared to Summer 2022 2,059 individuals (95% CIs 1,408 – 3,010). Design-based Winter abundance of minke whale was much lower than the Summer estimates for either year estimating an abundance of 535 (95% CI's 319 – 900) (Giralt Paradell *et al.*, 2024).

Density distribution map highlights higher densities of minke whales along the south coast of Ireland, particularly in West Cork waters. There were insufficient sightings to generate model-based estimates or a predicted density distribution for Winter (Figure A8-1 and Figure A8-2) (Giralt Paradell *et al.*, 2024).

Within survey stratum 5, in which the proposed development is located, the corrected density estimate was only estimated for all three survey periods. The corrected estimates were as follows:

- 0.018 animals/km^2 in Summer 2021 and Summer 2022; and
- 0.004 animals/km^2 in Winter.

Table A8.1 Minke whale design-based and model-based density (#/km^2) and abundance estimates for stratum 5 of the ObSERVE 1 and 2 surveys (Rogan *et al.*, 2018 and Giralt Paradell *et al.*, 2024).

Survey	Corrected design based estimates		Corrected model based estimates	
	Density	Abundance	Density	Abundance
Summer 2015	0.045	NA	NA	
Winter 2015-16	NA		NA	
Summer 2016	0.016	NA	NA	
Winter 2016-17	NA		NA	
Summer 2021	0.018	201	0.014	149
Summer 2022	0.018	197	0.009	93
Winter 2022	0.004	232	NA	

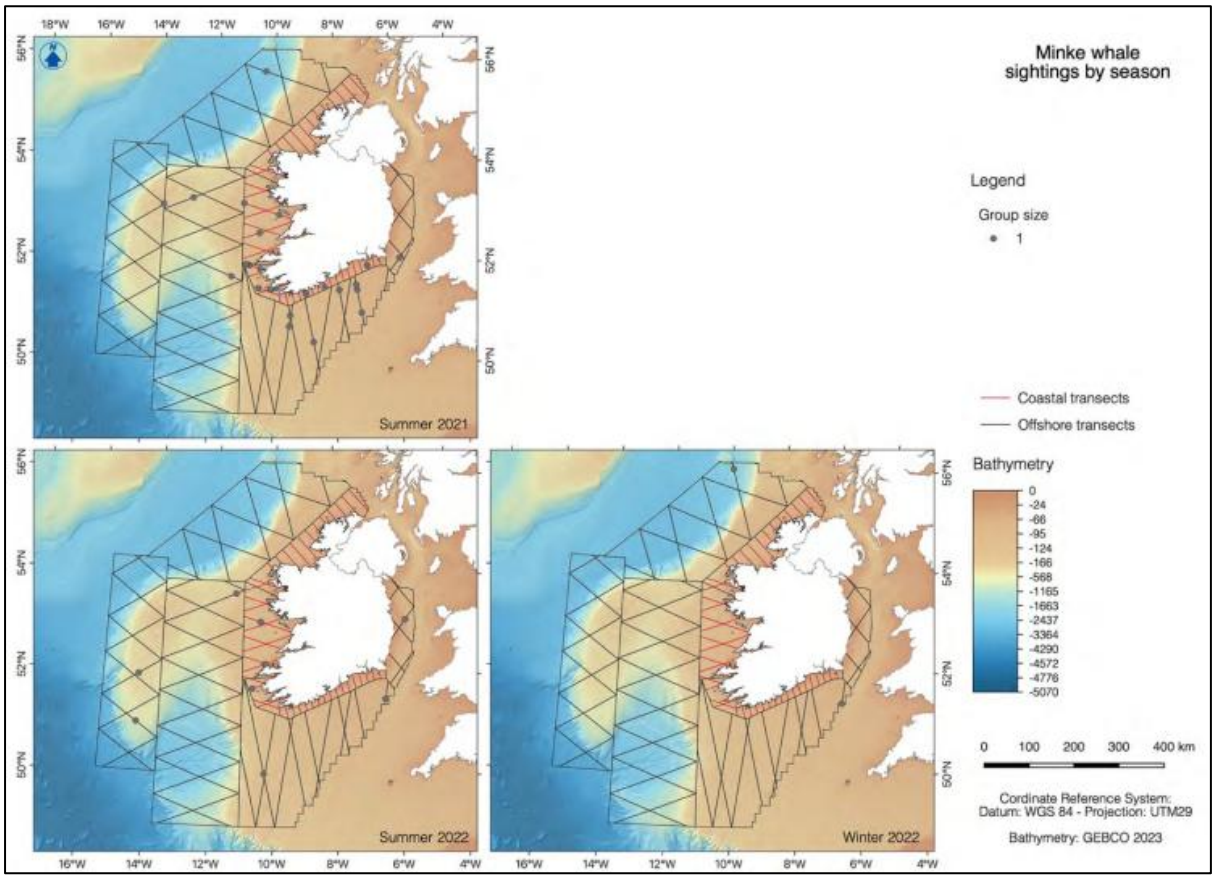

Figure A8-1 Sightings of minke whale across all surveys (top) and in each survey period (bottom). Note that no surveys were carried out in winter 2021. Grey lines indicate the survey tracklines in the offshore strata and red lines indicate the tracklines in the coastal strata. Circles are proportional to the number of porpoises in each sighting. Figure from Giralt Paradell *et al.* (2024).

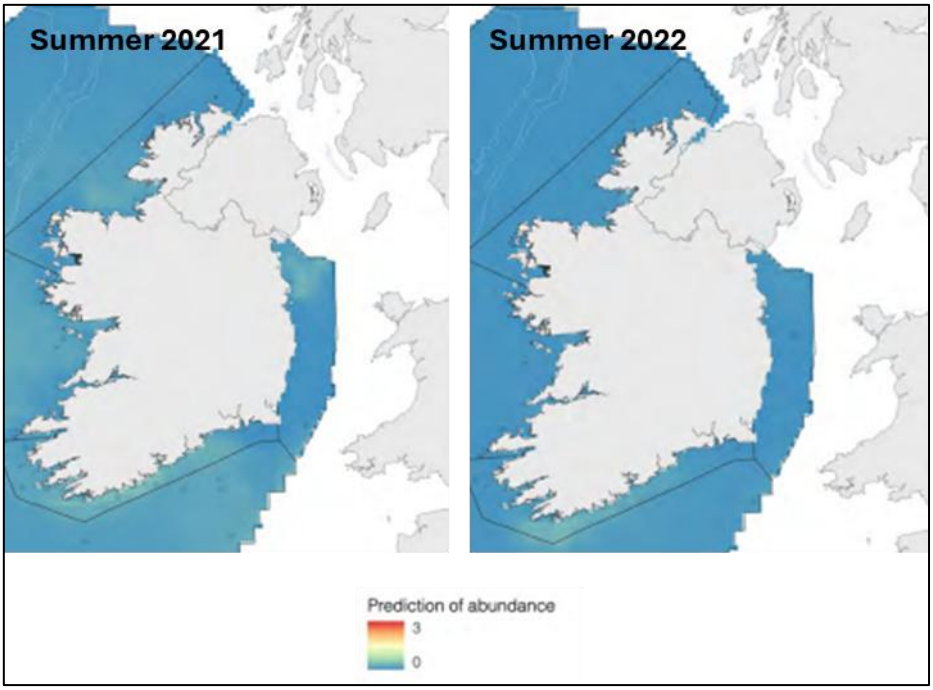

Figure A8-2 Predicted density distributions of minke whale for Summer 2021 (left) and Summer 2022 (right). There were insufficient sightings to generate model-based estimates or a predicted density distribution for Winter. Figures from Giralt Paradell *et al.* (2024).

8.3 Distribution and abundance of cetaceans in Wales and its adjacent waters

There are no changes to this section. Refer to Section 8.3 of Appendix 14.2 in the 2024 EIAR.

8.4 SCANS

The text on SCANS in Section 8.4 of Appendix 14.2 in the 2024 EIAR remains unchanged.

8.4.1 SCANS IV density surface

The following section has been added as a result of the publication of the new SCANS IV density surface.

Gilles *et al*. (2025) used the SCANS IV data and spatially references environmental features to predict density estimates for minke whales. The resulting predicted density map indicated that the highest densities of minke whales were in the central Irish Sea. When compared with the SCANS IV block-wide (CS-D) uniform density estimate (0.0.0137 whales/km^2), the SCANS IV density surface estimates are more representative of real-world species habitat use. Using the SCANS IV density surface, the densities of minke whale in the vicinity of the NISA array area and OECC are relatively low, with values between <0.01 minke whales/km^2 (Figure A8-3). This represents a grid-cell specific density estimate smaller than the value of the uniform density estimate from Gilles *et al.* (2023).

The maximum, minimum and average densities of minke whale within the NISA array area and OECC are summarised in Table A7.4.

Table A8.2 The maximum, minimum and average densities of minke whale within the NISA array area and OECC.

Location	Maximum Density (animals/km²)	Minimum Density (animals/km²)	Average Density (animals/km²)
OECC	0.0062	0.0055	0.0059
Array Area	0.0073	0.0059	0.0066

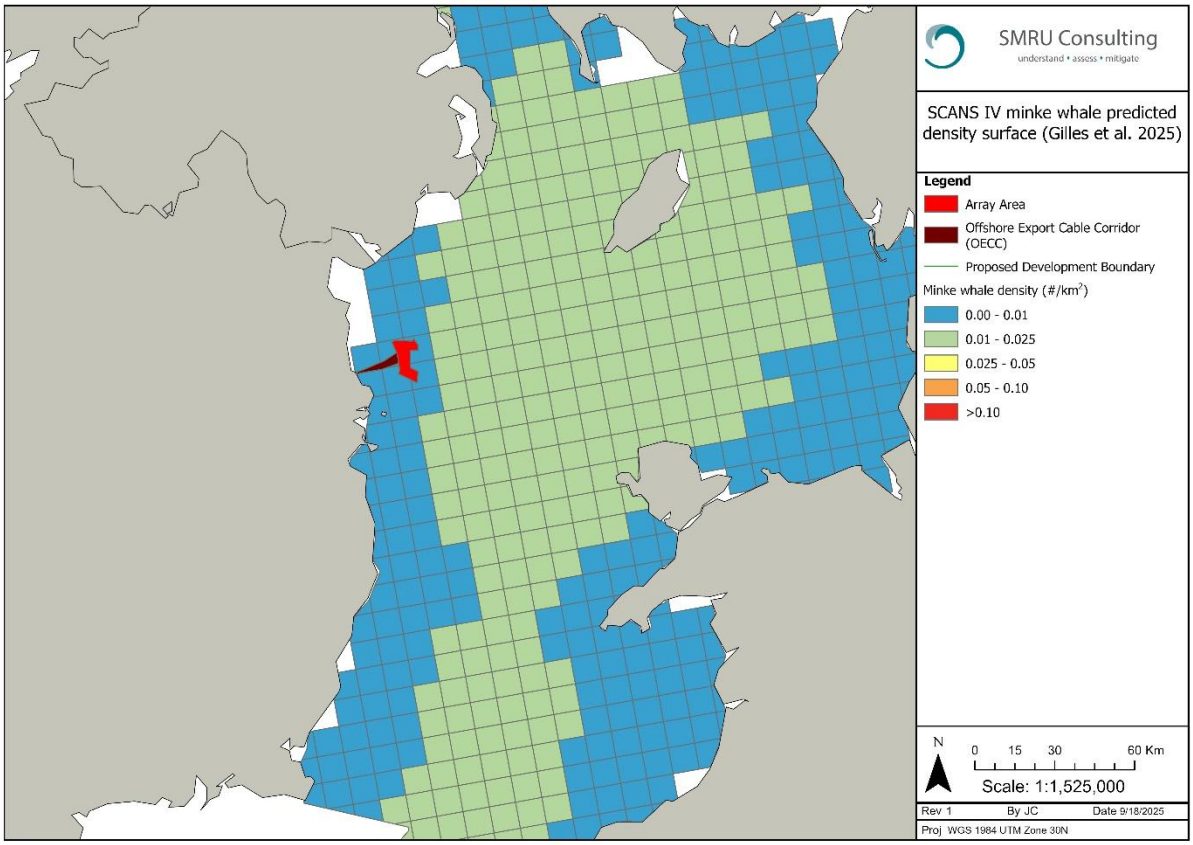

Figure A8-3 Predicted density surface for minke whale. Data from Gilles *et al.* (2025).

8.5 IWDG Surveys

There are no changes to this section. Refer to Section 8.5 of Appendix 14.2 in the 2024 EIAR.

8.6 Irish Marine Mammal Atlas

There are no changes to this section. Refer to Section 8.6 of Appendix 14.2 in the 2024 EIAR.

8.7 Other OWFs

There are no changes to this section. Refer to Section 8.7 of Appendix 14.2 in the 2024 EIAR.

8.8 Seasonality

There are no changes to this section. Refer to Section 8.8 of Appendix 14.2 in the 2024 EIAR.

8.9 Summary

The changes in this section are required as a result of the new minke whale baseline data. Therefore, Section 8.9 and Table 19 within Appendix 14.2 in the 2024 EIAR shall be deleted and replaced with the text below and Table A8.3.

The SCANS IV density surface provides the most up to date spatially explicit density surface, while the ObSERVE2 summer estimate for 2021 and 2022 provides the highest density estimate. The quantitative impact assessment in the EIAR will present impacts based on both the SCANS IV density surface and the ObSERVE summer density estimate (noting that both are summer only densities). To account for reduced densities of minke whale in the winter, the ObSERVE2 winter survey density estimate will also be presented.

Table A8.3 Minke whale density estimates (whales/km^2) (Replaces Table 19 in Appendix 14.2 of the 2024 EIAR)

Data source	Reference	Density estimate
2024-2025 DAS	APEM	Maximum: 0 Average: 0
SCANS IV density surface	**Gilles *et al.* (2025)**	**Grid cell specific** **0.0059 – 0.0073 in the array area** **0.0055 – 0.0062 in the ECC**
ObSERVE2 Summer Stratum 5	**Giralt Paradell *et al.* (2024)**	**2021 & 2022: 0.018**
ObSERVE2 Winter Stratum 5		**0.004**
Site specific surveys (2020-2022)	Natural Power and APEM	Not estimated
SCANS IV block CS-D	Gilles *et al.* (2023)	0.0137
SCANS III block E	Hammond *et al.* (2021)	0.017
SCANS II block O	Hammond *et al.* (2013)	0.024
SCANS III density surface	Lacey *et al.* (2022)	Grid cell specific 0.01-0.05 in the array area and ECC
ObSERVE summer stratum 5	Rogan *et al.* (2018)	Season 1: 0.045 Season 3: 0.016
Welsh and Irish Sea distribution	Evans and Waggitt (2023)	Grid cell specific 0.011 in NISA array area

9 Harbour seal

9.1 Proposed development: Site-specific surveys

9.1.1 Vessel surveys

There are no changes to this section. Refer to Section 8.1.1 of Appendix 14.2 in the 2024 EIAR.

9.1.2 Aerial surveys

Section 9.1.2, Aerial Surveys in Appendix 14.2 of the 2024 EIAR remains unchanged. However, it has been expanded to include a new section on the 2024–2025 DAS, which follows on from the text in Section 9.1.2 of the 2024 EIAR.

During the 2024-2025 DAS, only one harbour seal was sighted during the July 2025 survey, resulting in a density estimate of 0 seals/km^2 (95% CIs: 0 – 0.1). In addition, there were 77 unidentified seals (4.2% of total marine mammal sightings).

The new 2024-2025 DAS validate the result from the previous 2020-2022 site-specific surveys which detected no harbour seals, and low numbers of unidentified seals.

Irish Marine Mammal Atlas

There are no changes to this section. Refer to Section 9.1.2 of Appendix 14.2 in the 2024 EIAR.

9.2 Pup Counts

There are no changes to this section. Refer to Section 9.2 of Appendix 14.2 in the 2024 EIAR.

9.3 Haul-out counts

Section 9.3 has been completely replaced by the following section. This is required as a result of the updated seal haul-out surveys since the 2024 EIAR. To ensure the marine mammal assessment remains relevant and up to date, the new seal haul-out surveys have been considered.

The offshore development area is located within the East region of the RoI but is close to the Northern Ireland MU. The relevant reference population against which to assess the impacts of NISA is thus a combination of the east regions of RoI and the Northern Ireland MU.

Morris *et al.* (2025) reported on the number (Table A9.1) and distribution of hauled-out harbour seals in RoI (Figure A9-1). A total of 247 seals were counted in the East region and 69 in the Southeast region. The most recent 2021 August counts for harbour seals in the Northern Ireland MU is 818 individuals (SCOS, 2023). It was noted that concerningly, counts of harbour seals in all areas surveyed in 2021, were all substantially lower than counts in recent years. It has also been reported that Northern Ireland harbour seal counts are continuing to decline slowly.

The total August counts for the East region (247), South-east region (69) and the Northern Ireland MU (818) can be scaled by the estimated proportion of animals hauled-out at the time of the survey (0.72, 95% CI 0.54 – 0.88) (Lonergan *et al*. 2013). The combined harbour seal count totals 1,134 harbour seals with a resulting population estimate of 1,575 harbour seals in the reference population (95% CI: 1,289 – 2,100). This represents an overall increase in harbour seals on the east coast of Ireland/Northern Ireland over the previous 2017/2018 survey results.

Table A9.1 Harbour seal counts in the Republic of Ireland from 2003 – 2024 (Replaces Table 20 in Appendix 14.2 of the 2024 EIAR)

Region	Area	Harbour seal counts			
		2003	2011/12	2017/18	2024
East	1	89	61	61	178
East	2	34	29	70	69
East	3	0	0	0	0
South-east	1	17	49	33	66
South-east	2	0	0	0	0
South-east	3	1	4	1	3

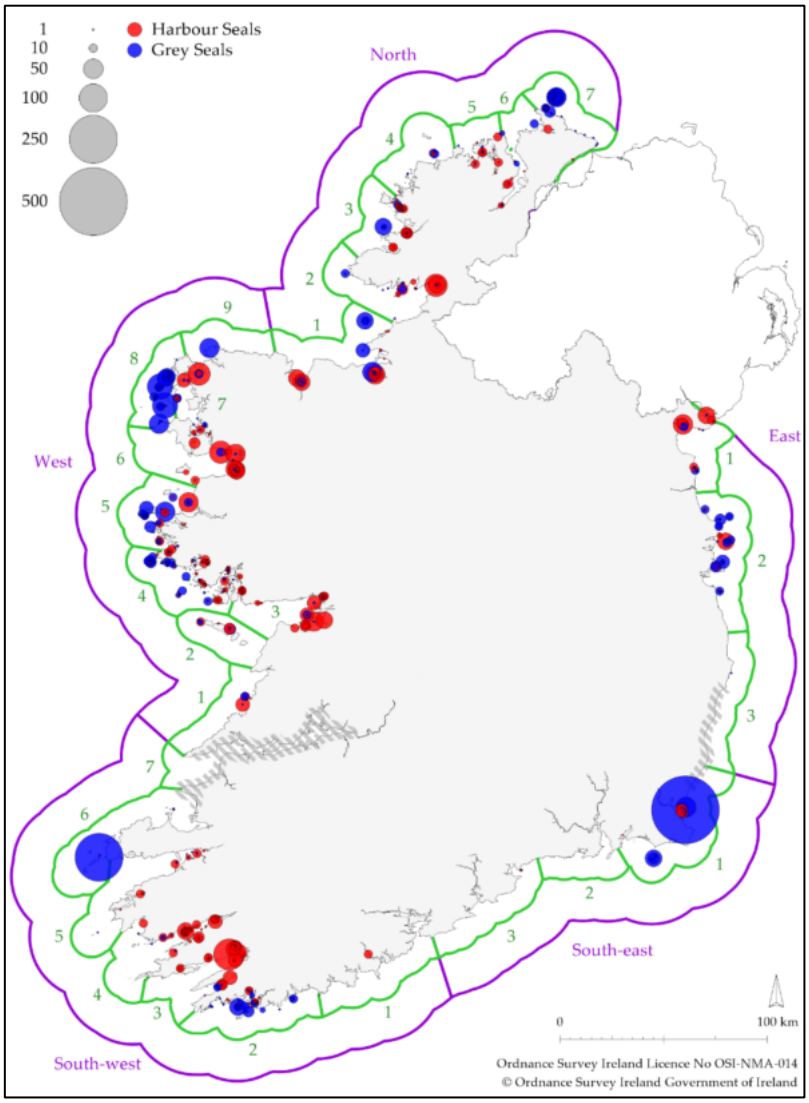

Figure A9-1 Numbers and distribution of harbour seals (red circles) and grey seals (blue circles) in Ireland in August 2024 (Replaces Figure 62 in Appendix 14.2 of the 2024 EIAR).

9.3.1 Seal landfall surveys

The addition of this new section is required as a result of new seal landfall surveys.

Across the dedicated surveys conducted in November 2024 and then monthly between June 2025 and May 2026, harbour seals were recorded in four of the 13 surveys, both hauled out and in the water, with peak counts reaching 6 individuals hauled out (June 2025). None of these sightings were within the Seal Survey Area, with sightings primarily associated with Cardy Rocks, located approximately 650 m offshore. No seals were observed hauled out on the shore or along the proposed development landfall site. Furthermore, no pups were observed across any of the months, indicating that the area is not used as a pupping or breeding site.

9.4 Telemetry

There are no changes to this section. Refer to Section 9.4 of Appendix 14.2 in the 2024 EIAR.

9.5 At-sea density

There are no changes to this section. Refer to Section 9.5 of Appendix 14.2 in the 2024 EIAR.

9.6 IWDG surveys

There are no changes to this section. Refer to Section 9.6 of Appendix 14.2 in the 2024 EIAR.

9.7 Other OWFs

There are no changes to this section. Refer to Section 9.7 of Appendix 14.2 in the 2024 EIAR.

9.8 Seasonality

There are no changes to this section. Refer to Section 9.8 of Appendix 14.2 in the 2024 EIAR.

9.9 Summary

There are no changes to this section. Refer to Section 9.9 of Appendix 14.2 in the 2024 EIAR.

10 Grey seal

10.1 Proposed development: Site-specific surveys

10.1.1 Vessel surveys

There are no changes to this section. Refer to Section 8.1.1 of Appendix 14.2 in the 2024 EIAR.

10.1.2 Aerial surveys

Section 10.1.2, Aerial Surveys in Appendix 14.2 of the 2024 EIAR remains unchanged. However, it has been expanded to include a new section on the 2024–2025 DAS, which follows on from the text in Section 10.1.2 of the 2024 EIAR.

During the 2024-2025 DAS, a total of 113 grey seals (6.2% of total marine mammal sightings) were recorded. In addition, there were 77 unidentified seals (4.2% of total marine mammal sightings).The greatest number of grey seal sightings occurred in July, which also had the highest calculated density (0.1 seals/km^2). The average density estimate across all surveys was 0.03 seals/km^2. Densities were highest during the summer (0.06 dolphins/km^2) (Table A10.1).

The resulting density estimates from the 2024-2025 DAS are similar to those calculated from the 2020-2022 site-specific surveys, and therefore validate the previous dataset (Table A10.2 and

Table A4.2). The average density from the 2020-2022 site-specific surveys was 0.02 seals/km^2, with highest densities in the Autumn months (0.03 seals/km^2), whereas the average density from the 2024-2025 DAS was 0.03 seals/km^2, with highest densities in the summer months (0.06 seals/km^2).

Table A10.1 Grey seal sightings and calculated densities during the 2024 - 2025 DAS.

Survey	Month	Sightings (raw)	Absolute density (seals/km^2)	Density Confidence Intervals
1	Sep 24	5	0.01	0.01 – 0.02
2	Oct 24	2	0.01	0 – 0.01
3	Nov 24	6	0.01	0 – 0.02
4	Dec 24	3	0.01	0 – 0.02
5	Jan 25	6	0.02	0 – 0.04
6	Feb 25	6	0.02	0.01 – 0.03
7	Mar 25	1	0	0 – 0.01
8	Apr 25	5	0.01	0.01 – 0.02
9	May 25	38	0.1	0 – 0.27
10	Jun 25	2	0.01	0 – 0.01
11	Jul 25	39	0.1	0 – 0.26
12	Aug 25	0	0	0

Table A10.2 Grey seal calculated densities from the new 2024-2025 DAS compared to the previous 2010-2022 sit-specific surveys

	Season	Months	2020 –2022 site-specific surveys	2024 – 2025 DAS
Average	All	All months	0.02	0.03
Average	Autumn	Sep, Oct, Nov	0.03	0.01
Average	Winter	Dec, Jan, Feb	0.01	0.02
Average	Spring	Mar, Apr, May	0.02	0.04
Average	Summer	Jun, Jul, Aug	0.02	0.06

10.2 Irish Marine Mammal Atlas

There are no changes to this section. Refer to Section 10.2 of Appendix 14.2 in the 2024 EIAR.

10.3 Pup counts

There are no changes to this section. Refer to Section 10.2 of Appendix 14.3 in the 2024 EIAR.

10.4 Haul-out counts

Section 10.3 has been completely replaced by the following section. This is required as a result of the updated seal haul-out surveys since the 2024 EIAR. To ensure the marine mammal assessment remains relevant and up to date, the new seal haul-out surveys have been considered.

The offshore development area is located within the East region of the RoI but is close to the Northern Ireland MU. The relevant reference population against which to assess the impacts of NISA is thus a combination of the east regions of RoI and the Northern Ireland MU.

Morris *et al.* (2025) reported on the number (Table A10.2 and Table A9.1) and distribution of hauled-out grey seals in RoI (Figure A9-1). A total of 331 grey seals were counted in the East region and 671 in the Southeast region. The most recent 2021 August haul-out counts for grey seals in Northern Ireland is 549 individuals (SCOS, 2023).

The total August counts for the East region (331), South-east region (671) and the Northern Ireland MU (549) can be scaled by the estimated proportion of animals hauled-out at the time of the survey (25.15%, 95% CI 21.45% - 29.07%) (SCOS, 2022). The combined grey seal count totals 1,551 grey seals with a resulting population estimate of 6,167 grey seals in the reference population (95% CI: 5,335 – 7,231).

Table A10.3 Grey seal counts in the Republic of Ireland from 2003 – 2024 (Replaces Table 23 in Appendix 14.2 of the 2024 EIAR)

Region	Area	Grey seal counts			
		2003	2011/12	2017/18	2024
East	1	39	48	83	70
East	2	211	172	335	260
East	3	12	03	0	1
South-east	1	189	239	550	667
South-east	2	0	0	1	0
South-east	3	0	4	5	4

10.4.1 Seal landfall surveys

The addition of this new section is required as a result of new seal landfall surveys.

Across the dedicated surveys conducted in November 2024 and then monthly between June 2025 and May 2026, grey seals were recorded in all surveys except January and March 2026. Within the Seal Survey Area, grey seals were observed swimming but not hauled out. The majority of sightings were recorded on or around Cardy Rocks, outside of the Seal Survey Area. Grey seals were sighted hauled out at Cardy Rocks on 8 surveys, with a peak count of nine grey seals hauled out at Cardy Rocks in October 2025.

No seals were observed hauled out on the shore or along the proposed development landfall site. Furthermore, no pups were observed across any of the months, indicating that the area is not used as a pupping or breeding site.

10.5 Telemetry

There are no changes to this section. Refer to Section 10.5 of Appendix 14.2 in the 2024 EIAR.

10.6 At-sea density

There are no changes to this section. Refer to Section 10.6 of Appendix 14.2 in the 2024 EIAR.

10.7 IWDG surveys

There are no changes to this section. Refer to Section 10.7 of Appendix 14.2 in the 2024 EIAR.

10.8 Other OWFs

There are no changes to this section. Refer to Section 10.8 of Appendix 14.2 in the 2024 EIAR.

10.9 Seasonality

There are no changes to this section. Refer to Section 10.9 of Appendix 14.2 in the 2024 EIAR.

10.10 Summary

There are no changes to this section. Refer to Section 10.10 of Appendix 14.2 in the 2024 EIAR.

11 Future receiving environment

There are no changes to this section. Refer to Section 11 in Appendix 14.2 in the 2024 EIAR.

12 Data gaps or uncertainties

There are no changes to this section. Refer to Section 12 in Appendix 14.2 in the 2024 EIAR.

13 Summary

The changes in this section are required as a result of the new marine mammal baseline data. Therefore, Section 13 and Table 26 within Appendix 14.2 in the 2024 EIAR shall be deleted and replaced with the text below and Table A13.1.

Table A13.1 provides a summary of the species-specific MU size and density estimates that are recommended for use in the quantitative impact assessment in the EIAR.

Table A13.1 Marine mammal MU and density estimates taken forward to quantitative impact assessment (Replaces Table 26 of Appendix 14.2 in the 2024 EIAR).

Species	MU	Density estimate (#/km^2)
Harbour porpoise	Celtic and Irish Seas MU 62,517 porpoise (IAMMWG, 2023)	Average from NISA 2024-2025 DAS (min – max) 0.21 (0.11 – 0.39)
Bottlenose dolphin	Irish Sea MU 8,225[1] dolphins	SCANS IV density surface (Gilles *et al.*, 2025) Grid cell specific average (min-max): • ECC 0.1669 (0.1577 – 0.1787) • Array area 0.1587 (0.1444 – 0.1712)
Risso's dolphin	Celtic and Greater North Seas MU 12,262 dolphins (IAMMWG, 2023)	ObSERVE2 strata 5 summer 2022 (Giralt Paradell *et al.*, 2024) 0.027
Common dolphin	Celtic and Greater North Seas MU 102,656 dolphins (IAMMWG, 2023)	Average from NISA 2024-2025 DAS (min – max) 0.10 (0.02 – 0.33)
Minke whale	Celtic and Greater North Seas MU 20,118 whales (IAMMWG, 2023)	SCANS IV density surface (Gilles *et al.*, 2025) Grid cell specific average (min-max): • ECC 0.0059 (0.0055 – 0.0062) • Array area 0.0066 (0.0059 – 0.0073)
		ObSERVE2 strata 5 summer (July – September) 2021 & 2022 (Giralt Paradell *et al.*, 2024) 0.018
		0.004 ObSERVE2 strata 5 winter (November – February) 2022-2023 (Giralt Paradell *et al.*, 2024) 0.004
Harbour seal	East regions of RoI and Northern Ireland MU 1,575 harbour seals	Habitat preference map (Carter *et al.*, 2022) Grid cell specific average (min-max): • ECC 0.040 (0.022 – 0.056) • Array area 0.026 (0.015 – 0.044)

[1] Given the high density estimates for bottlenose dolphins in the Irish Sea using the Gilles *et al.* (2025) density surface, they are incompatible with the current Irish Sea MU population size of 293 dolphins (IAMMWG, 2023).

Grey seal	East regions of RoI and Northern Ireland MU 6,167 grey seals	Habitat preference map (Carter *et al.*, 2022) Grid cell specific average (min-max): • ECC 0.525 (0.034 – 0.939) • Array area 0.329 (0.223 – 0.439)

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This reference list replaces the reference list in Section 14 of Appendix 14.2 in the 2024 EIAR.

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