

Arklow Bank Wind Park 2

Response to Information Request on the Derogation Licence Application

30 October 2026

sse Renewables

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1 Introduction

1.1 Overview

1.1.1.1 This document has been prepared for Arklow Bank Wind Park 2 (ABWP2) to supplement the derogation licence application that has been submitted for marine mammals listed on Annex IV of the Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna, as amended (hereafter referred to as 'the Habitats Directive').

1.1.2.1 The application was made by Sure Partners Ltd ('the Applicant'). The derogation licence is sought as there is potential for deliberate disturbance of marine mammals from piling required to support the foundation installation for ABWP2 under Regulation 51(2)(b) and Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No 477 of 2011), as amended (hereafter referred to as 'the Habitats Regulations').

1.1.3.1 ABWP2 is a proposed offshore wind farm situated on and around Arklow Bank in the Irish Sea, approximately 6 to 15 km to the east of Arklow in County Wicklow. An application was submitted by the Applicant for offshore aspects of ABWP2 ('the Proposed Development') to An Bord Pleanála (ABP) ('the Board', now referred to as An Coimisiún Pleanála ('ACP') in June 2024 (Case Reference: 319864-24).

1.1.4.1 Subsequently, on 10 April 2025 a Request for Information ('the ACP RFI') was issued by ACP. In providing the response to the matters raised in the ACP RFI, a derogation licence application was submitted to the National Parks and Wildlife Service ('NPWS') on 8 April 2026 by the Applicant. Revised documentation was also submitted to ACP by the Applicant on 10 April 2026 to respond to the ACP RFI. On 22 June 2026, that derogation licence application was refused by the NPWS.

1.1.5.1 On 31 July 2026, a new application for a derogation licence was submitted to the NPWS by the Applicant. The NPWS requested further information from the Applicant on 23 September 2026 ('the NPWS RFI'). This document represents the response from the Applicant to the NPWS RFI.

1.2 Background

2.1.1.1 This document has been prepared in response to the NPWS RFI. This response is intended to supplement, rather than replace or supersede the application document that was submitted to the NPWS on 31 July 2026.

2.1.2.1 This document should be read in conjunction with the application that was submitted to the NPWS on 31 July 2026. It is confirmed that all information in that application remains accurate and applicable. It is confirmed that there are no changes to any of the sections therein and relevant cross references are explicitly stated, most commonly in relation to the Supporting Document that was submitted as part of the application made on 31 July 2026.

1.3 Contributing Experts

3.1.1.1 These responses have been prepared by the Applicant, along with the consultants, GoBe Consultants Ltd/APEM. Those responsible are summarised in Table 1.

Table 1: Statement of Authority of those responsible for preparing this document

Expert	Qualifications	Relevant Experience
Kaj Christiansen	Eng (Hons.) in Environmental Engineering from the University of Galway, MSc (Hons.) in Renewable Energy from University of Aberdeen, CEng with Engineers Ireland	Kaj has over 14 years' experience within the renewable energy industry, specifically in the field of offshore wind and solar energy development. Kaj has acted in both project engineering and project management roles for a number of offshore wind projects throughout the North Sea. Kaj also has extensive Irish based development management experience in taking solar and offshore wind energy infrastructure through the development cycle; from early conceptual planning stages through to design, construction and operation.
Aoibhín Flanagan	BA(Mod) Environmental Science, Trinity College Dublin, MSc DIC Environmental Engineering and Business Management, Imperial College London. ISEP Practitioner.	Aoibhín is a Consents Manager with SPL/SSE and Practitioner and Committee Member with the Institute of Sustainability and Environmental Professionals (formerly IEMA). Aoibhín has 14 years' experience working in consenting, risk and environmental assessments across Europe and Australasia. Aoibhín has worked across a range of sectors and infrastructure types to manage and deliver consents and she has led spatial and data analysis, climate, health, social, population and socio-economic assessments and forecasting.
Sarah Brouder	M.Sc. Water and Coastal Management, University of Bologna. BSc. (Hons) Zoology, University College Cork.	Sarah is a Senior Marine Mammal Consultant at APEM with experience in environmental consultancy, marine mammal research and field work. Throughout her career, Sarah has worked on a number of marine mammal assessments for offshore projects across the Ireland and the UK, and has a practical understanding of legislation and policy governing marine mammals at a national and international level. Sarah has considerable experience collecting and interpreting baseline data, including from Passive Acoustic Monitoring (PAM), boat-based visual surveys and vantage point Sarah is a Senior Marine Mammal Consultant at APEM with experience in environmental consultancy, marine mammal research and field work.
Joana Torres	MSc Marine Mammal Science, University of Wales, Bangor	Joana is an Associate Director and Marine Mammal Team Lead at APEM. Joana joined APEM in 2023 having gained over 15 years' experience across environmental consultancy, government and academia. Her expertise includes marine mammal impact assessment and understanding of underwater noise impacts. Joana has worked on several Irish projects, providing technical review across EIA and HRA documentation.

2 Responses to the NPWS

2.1 Overview

1.1.1.1 The NPWS has sought additional information in relation to Test 2 and Test 3 as described in Regulation 54 of the Habitat Regulations in order to allow the NPWS to complete the assessment. The request received along with the response to that request has been provided.

2.2 Clarifications on Test 2

2.2.1 Additional Information Requested for Test 2

Request Received

2.1.1.1 *The information provided in relation to the majority of the alternatives considered is sufficient to inform the Test 2 assessment. However, clarification will be required in relation to Alternative 7 on timing and sequencing, specifically the basis for concluding that temporal restrictions would not avoid or reduce disturbance to Annex IV species despite the seasonal variation identified for individual species, and the comparative justification for the proposed timing relative to feasible alternative timing scenarios.*

Response to Request

OVERVIEW

2.1.2.1 The Applicant has concluded that temporal restrictions on piling activities would not avoid or reduce deliberate disturbance to Annex IV species for the following reasons (with evidence supporting these conclusions set out in detail in the subsections below):

- The sensitive periods for the relevant Annex IV cetacean species would require piling to be limited temporally (i.e. for the cumulative sensitive period this would be a three-month period between December and February or slightly longer in the case of species-specific sensitive periods). This would increase the duration of the construction programme over multiple years and thus extend the duration of piling activities (i.e. period during which Annex IV cetacean species could be exposed to deliberate disturbance), potentially resulting in greater overall deliberate disturbance.
- There is insufficient evidence that temporal restrictions (i.e. avoiding sensitive life-stages) would avoid or reduce deliberate disturbance to Annex IV cetacean species.
- Even if temporal restrictions avoiding certain periods did successfully avoid or reduce deliberate disturbance for certain Annex IV cetacean species, the effect would not be the same for all Annex IV cetacean species. Temporal restrictions which benefit one species would likely lead to greater deliberate disturbance on other species.

2.1.3.1 Further, temporal restrictions (such as avoiding the cumulative sensitive periods) are not feasible from a project viability perspective. As set out in Section 5.2.4 of the Supporting Document, flexibility in the timing and sequencing of the activity requiring derogation is necessary to ensure the deliverability of the Proposed Development as the imposition of a temporal restriction on piling would present unacceptable commercial and contractual risk.

2.1.4.1 Based on the above, the Applicant has concluded that temporal restrictions are not a satisfactory alternative.

2.1.5.1 The Applicant does not consider that temporal restrictions that reflect sensitive periods, if it were feasible, would avoid or reduce deliberate disturbance to Annex IV cetacean species based on the following evidence.

2.1.6.1 As described in detail in Annex H to the Supporting Document (i.e. Marine Mammal Technical Report), the likelihood of occurrence of Annex IV cetacean species within the Marine Mammal Study Area is low or very low for all species other than harbour porpoise. While local occurrence is considered at the scale of the Marine Mammal Study Area, the Annex IV cetacean species are part of the wider Management Unit population (MU), and are distributed across extensive areas. Therefore, the number of individuals predicted to experience deliberate disturbance represents a very small proportion of the overall population.

2.1.7.1 Based on the seasonality considerations presented in Table 5-8 of the Supporting Document and as illustrated in Table 1, the cumulative sensitive period for all Annex IV cetacean species is between March to November. However, this does not account for local and site-specific variations in sensitivity and/or occurrence during the year. It is acknowledged that minke whales are not included in Table 1 as their breeding period within the Irish Sea is unknown.

Table 1: Sensitive periods (represented by blue) for Annex IV cetacean species

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Harbour porpoise				■	■	■	■	■	■			
Common dolphin					■	■	■	■	■			
Bottlenose dolphin					■	■	■	■	■	■	■	
Risso's dolphin			■	■	■	■	■	■	■			

2.1.8.1 Annex IV cetacean species are known to occur throughout the year as outlined in Section 4 of the Supporting Document and the site-specific data demonstrates that different seasonal peaks exist for each species. For instance, harbour porpoise were recorded throughout the year, although occurrence was higher during summer months but in contrast, higher occurrence of common dolphin was recorded during winter months in the 2023-2024 digital aerial surveys relative to the summer months.

2.1.9.1 Imposing temporal restrictions on piling activities (i.e. to avoid the cumulative sensitive period of all Annex IV cetacean species), if it were feasible, could therefore increase the potential for deliberate disturbance to certain species such as common dolphin, rather than avoid or reducing deliberate disturbance given the higher numbers of individuals occurring in those months.

2.1.10.1 Similarly, imposing temporal restrictions on piling activities based on the sensitive period for specific species (i.e. as per an individual row in Table 1, for example avoiding piling during April – September for harbour porpoise or avoiding May to November for bottlenose dolphin only) could also potentially increase deliberate disturbance to other species, which have higher occurrence in those months, rather than avoid or reduce deliberate disturbance.

2.1.11.1 Furthermore, no key breeding places have been identified for Annex IV cetacean species within proximity of the Proposed Development where particular species or individuals are known to reside or regularly habituate during any such sensitive periods.

CONSIDERATION OF SENSITIVE LIFE STAGES

2.1.12.1 Evidence on the biological significance of disturbance to harbour porpoise has been considered in relation to different life history stages to demonstrate that temporal restrictions focused on specific life stages, if they were feasible, would not avoid or reduce deliberate disturbance. Evidence is presented for harbour porpoise as they are considered the most responsive and acoustically sensitive species, with lower hearing thresholds at frequencies produced during piling. In addition, harbour porpoise are the most studied and Annex IV cetacean species for which the strongest empirical evidence on behavioural responses to piling is available. Therefore, harbour porpoise represents a precautionary basis for the consideration of deliberate disturbance on all other Annex IV cetacean species and thus deliberate disturbance on other Annex IV cetacean species would not be expected to exceed those predicted for harbour porpoise given their sensitivity relative to other species.

2.1.13.1 Expert opinion from an elicitation workshop concluded that juveniles and mature female survival was unlikely to be significantly affected by disturbance from piling, as this life stage was considered most robust (Booth et al., 2019). The experts also agreed that significant fertility impacts are considered unlikely to arise from disturbance events unless repeated disturbance was experienced, and even then, only at high levels; early termination of pregnancy was judged very unlikely (Booth et al., 2019). Calf survival could be reduced by just a few days of repeated disturbance during early lactation, though experts noted it is highly unlikely that the same mother-calf pair would repeatedly return to a particular location to experience these high levels of repeated disturbance. Therefore, the potential disturbance from piling to affect sensitive life stages (including calf survival and reproductive success) is considered low. There is therefore insufficient evidence to indicate that temporal restrictions focused on key life-stages, if they were feasible, would avoid or reduce deliberate disturbance to Annex IV cetacean species.

CONSIDERATION OF TEMPORAL EXTENT OF DELIBERATE DISTURBANCE

2.1.14.1 Temporal restrictions, if they were feasible, would push piling into months with poor weather and rougher metocean conditions (i.e. Autumn and Winter). The Applicant will not be able to carry out any construction works, including piling, during storm events[1] and just one pile will be impact hammered in a 24-hour period for a maximum duration of five hours and ten minutes.

2.1.15.1 Specifically, the period of December – February (i.e. based on the cumulative sensitive period for all species), if it were feasible, is particularly limited when considering the required scale and sequence of construction activities associated with the installation, the commitments above and associated fact that up to 75 days of piling may be required (as noted in Table 4.15 in Annex A to the Supporting Document) along with the increased potential for weather delays during those months. It is therefore considered that temporal restrictions, if they were feasible, would ultimately increase the total duration of piling activities and associated deliberate disturbance over more years – i.e. ultimately prolong the period during which Annex IV

[1] The definition of a storm event is defined in the Beaufort scale as: winds 48-55kn/89-102km/hr or 24.528.4m/s and Very high waves with long overhanging crests; resulting foam in great patches is blown in dense white streaks along the direction of the wind; on the whole the surface of the sea takes on a white appearance; rolling of the sea becomes heavy; visibility affected.

cetacean species could be exposed to deliberate disturbance and thus extend the timeframe over which deliberate disturbance may occur.

2.1.16.1 The scientific evidence does not support an assumption that extending piling over a longer period necessarily reduces deliberate disturbance for Annex IV cetacean species. The Joint Nature Conservation Committee (JNCC, 2020) stated:

"*The scientific evidence is currently inconclusive as to whether it is better to spread the noise out over time or impact a greater area for a shorter time. Studies that have modelled different wind farm installation scenarios have shown considerable variability in outputs.*

2.1.17.1 Therefore, there is currently insufficient scientific evidence to conclude that temporal restrictions, if they were feasible, would be beneficial in terms of their potential to avoid or reduce deliberate disturbance on Annex IV cetacean species given that they would ultimately extend the duration of construction programme required for piling.

2.1.18.1 Furthermore, a precautionary approach has been applied when quantifying potential deliberate disturbance on Annex IV cetacean species from the activity requiring derogation (i.e., piling). As presented in Table 3-6 and Table 5-12 of the Supporting Document, analysis using a dose-response function (Graham et al., 2017) has been undertaken. In accordance with the precautionary principle, this approach is considered inherently conservative and likely overestimates the number of animals predicted to experience deliberate disturbance as demonstrated through recent research, including Thompson *et al* (2025) which states:

"*Recommended use of this initial dose-response from Beatrice was intentionally precautionary, as subsequent analysis of the full dataset from Beatrice showed that responses weakened through construction, either due to habituation or other seasonal effects (Graham et al. 2019).*"

2.1.19.1 This suggests that the current analysis using the dose-response function (Graham *et al.* 2017) is likely to be overly conservative.

2.1.20.1 In their study on Beatrice Offshore Wind Farm, Graham *et al.* (2019) investigated behavioural responses to piling noise over time – specifically investigating how do harbour porpoise behavioural responses to construction noise vary in relation to: (a) received noise levels; (b) distance from piling; (c) time since the start of construction; and, (d) the duration of individual piling events at Beatrice Offshore Wind Farm. The paper stated:

""Furthermore, we found that the scale of response by the local population of porpoises declined over time, highlighting that previous assessments of disturbance impacts of long term piling programmes may be conservative" …. and

Where activities such as seismic surveys or pile-driving extend for periods of weeks or months, the level of response may also change over time as a result of habituation or tolerance".

2.1.21.1 Therefore, evidence indicates that behavioural responses are likely to decline over the duration of the piling programme as a result of tolerance or habituation and that the precautionary principle has been applied. Furthermore, temporal restrictions, if it were feasible, would constrain the piling activities to a shorter temporal window, which may reduce the opportunity for habituation and tolerance, without sufficient evidence that this would avoid or reduce the potential for deliberate disturbance to Annex IV cetacean species.

COMPARATIVE JUSTIFICATION

2.1.22.1 Given that alternative timing and sequencing was documented in Table 5-9 of the Supporting Document, we have understood the request for the comparative justification in the NPWS RFI relates to a comparison between the effects of the proposed timing (i.e. no temporal

restrictions) and potential temporal restrictions based on the additional evidence herein. This is presented in Table 2 to demonstrate how temporal restrictions would not avoid or reduce disturbance to Annex IV species based on the evidence above (i.e. empirical research and site-specific data on the seasonal variation identified for individual species) along with other relevant constraints such as impacts on deliverability of the Proposed Development. Specifically, it has been outlined how temporal restrictions, if they were feasible, may increase in disturbance for certain species and the increase in duration of deliberate disturbance.

Table 2: Comparative justification for the different timing scenarios

Description of alternative	Potential to avoid need for activity requiring derogation	Potential to avoid or reduce disturbance	Relevant constraints
No temporal restrictions for activity requiring derogation	No – Derogation still required piling would still be required.	No - Disturbance not avoided or reduced.	The construction programme has been optimised to reduce the activity requiring derogation to the greatest extent whilst delivering the Proposed Development and its objectives.
Temporal restriction for the cumulative sensitive period of all species - i.e. piling must occur between December – February.	No – Derogation still required piling would still be required.	No - Disturbance not avoided or reduced. Foundation installation activities would increase in duration (i.e. extending over multiple years), thus increase the duration of piling activities (i.e. during which Annex IV cetacean species could be exposed to deliberate disturbance), potentially resulting in greater overall deliberate disturbance. Temporal restrictions may also lead to greater deliberate disturbance on species occurring in higher numbers during winter months such as Common Dolphin.	This would present insurmountable risks (commercial, contractual, legal) to the Proposed Development and jeopardise its deliverability. Therefore, not a satisfactory alternative that could allow the Proposed Development to be implemented or its' objectives to be achieved.
Temporal restrictions for the sensitive period of individual species – i.e. all piling must occur to suit sensitive period for particular	No – Derogation still required piling would still be required.	No - Disturbance not avoided or reduced. Foundation installation activities would increase in duration (i.e. extending over multiple years), thus increase the duration of piling activities (i.e. during which Annex IV cetacean species could be exposed	This would present insurmountable risks (commercial, contractual, legal) to the Proposed Development and jeopardise its deliverability. Therefore, not a satisfactory alternative that could

species as noted in Table 1.	to deliberate disturbance), potentially resulting in greater overall deliberate disturbance. Temporal restrictions which benefit one species may also lead to greater deliberate disturbance on other species (e.g. Common Dolphin as per above).	allow the Proposed Development to be implemented or its' objectives to be achieved.

CONCLUSION

2.1.23.1 On this basis, the Applicant is confident that there is no satisfactory alternative in relation to alternative timing or sequencing that is capable of delivering the objectives of the Proposed Development whilst avoiding the need for the activity requiring derogation and the associated potential for deliberate disturbance of Annex IV cetacean species. Further, the Applicant has demonstrated how temporal restrictions, if they were feasible, may extend the duration of the deliberate disturbance and/or result in greater disturbance to particular species and that there is insufficient evidence to indicate that temporal restrictions focused on key life-stages, if they were feasible, would avoid or reduce deliberate disturbance to Annex IV cetacean species.

2.3 Clarifications on Test 3

2.3.1 Information Submitted in Application

Request Received

3.1.1.1 *"The applicant has not provided satisfactory evidence that the impact on conservation status has been fully considered. Based on the assessment of the application documentation, it is regarded that the applicant has not fully considered the impact of a derogation and whether it would be detrimental to the maintenance of the populations of Annex IV marine mammal species in their natural range."*

Response to Request

3.1.2.1 The Applicant has fully considered the impact on conservation status and the maintenance of the populations of Annex IV marine mammal species in their natural range. The Applicant considers that satisfactory evidence of this was provided in the application that was submitted on 31 July 2026.

3.1.3.1 Specifically, the Applicant has complied with the relevant guidance provided by NPWS (2026) to inform Test 3 on whether the activity requiring derogation (i.e. piling) would be detrimental to the maintenance or restoration[2] of the FCS of the Annex IV cetacean species in their natural range. As set out in the NPWS guidance (NPWS, 2026), applicants may provide evidence to support the reasoning, including:

- *"Evidence should include an objective description of the population of the species at the local, national or biogeographical scale and the extent of the impact on this population"*
    - This has been provided in Section 5.3.2 of the Supporting Document.

[2] The NPWS (2026) guidance states in regard to Test 3 that *"The rationale behind this test is that strictly protected species must be maintained at such a status, or restored to favourable status if this is not the case at present."*

- *"Description of impact of the proposed activity on the conservation status at the relevant scale – before and after any mitigation is applied".*
    - This has been provided in Section 5.3.3 of the Supporting Document.
- *"Mitigation measures including sufficient detail to demonstrate to the NPWS that the measures will be undertaken according to best practice standards and, wherever possible, have been undertaken in similar circumstances with positive results. Reference to evidence for success such as the Conservation Evidence database may help to provide such evidence".*
    - This has been provided in Section 5.4.3 of the Supporting Document.
- *"The effect of mitigation on the impact of the activity on the conservation status of the species. Note that if the conservation status of the concerned species is not favourable, this Test can only be met if it is justified as being under exceptional circumstances and only if the conservation status will not deteriorate and its restoration at a favourable status is not prevented by undertaking the activity.*
    - This has been provided in Sections 5.3.4.26 through to 5.3.4.30 and Sections 5.3.4.31 through to 5.3.4.42 of the Supporting Document.
- *"Clear explanation as to how the proposed mitigation will lead to neutral or net positive effects on the populations of the species concerned".*
    - This has been provided in Sections 5.4.3.26 through to 5.4.4.30 of the Supporting Document.
- *"Compensation for impacts that are predicted to occur are a legitimate means to ensure that the favourable conservation status will not be affected. For example, compensating for loss of an otter holt by provision of one or more artificial holt sites. However, this should not be confused with reference to "compensation" in the context of Article 6(4) of the Habitats Directive, which relates to conditions under which plans and projects may be permitted".*
    - The Applicant has concluded in Section 7 of the Supporting Document that the granting of the derogation will not be detrimental to the maintenance or restoration of the population of Annex IV cetacean species. Therefore, compensation is not proposed nor required.

3.1.4.1 The Applicant therefore considers that the Supporting Document submitted as part of the derogation licence application provides sufficient evidence to demonstrate that granting a derogation would not be detrimental to the maintenance or restoration of FCS of populations of the Annex IV cetacean species in their natural range.

2.3.2 ObSERVE II data

Request Received

3.2.1.1 *"The most recent ObSERVE II 2021-2023 (Giralt Paradell, et al., 2024) data is not incorporated. Incorporating this data would add more recent spatially extensive coverage that could refine local density and distribution, and in particular seasonal patterns. It is recommended that the importance of the Irish Sea, particularly for harbour porpoise, and the year-round presence of this species including during summer breeding season is clearly considered throughout."*

Response to Request

3.2.2.1 With respect to the use of ObSERVE II data, this dataset is considered to provide valuable background context to marine mammal occurrence, distribution and abundance throughout the Irish Sea and it is recognised that the Irish Sea is an important area for harbour porpoise throughout year, including during the summer breeding season. However, for the purposes of determining deliberate disturbance at the local scale and presenting the site-specific

information required to support the licence application for the Proposed Development, the site-specific Digital Aerial Surveys (DAS) provide much finer spatial and temporal resolution and the site-specific data from the DAS has been collected over a much longer time period. Therefore, the site-specific DAS data are considered the most appropriate for informing the detailed analysis undertaken to quantify deliberate disturbance on Annex IV cetacean species from the activity requiring derogation (i.e., piling).

3.2.3.1 The site-specific DAS data have been used to derive the absolute density estimates for harbour porpoise, which incorporated site-specific sightings during all survey months, including those during the summer breeding season. This comprises results from 43 individual surveys (collected on a monthly basis from March 2018 to April 2020, August 2023 to June 2024, and February 2025 to July 2025). In contrast, the ObSERVE Phase II surveys were collected between 2021 and 2023 and comprised of only a single survey/flyover during each survey period (i.e. summer 2021, summer 2022 and winter 2022). Therefore, the ObSERVE II surveys represent a snapshot survey of cetacean distribution at any one point in time and account for very limited inter-annual and intra-annual variability.

3.2.4.1 Analysis of the survey transects undertaken for each survey type is presented in Table 3 to demonstrate the extensive scale of site-specific survey data that has been collected via DAS in comparison to the ObSERVE Phase II survey data.

Table 3: Analysis of the transects and extent of survey coverage for DAS and ObSERVE II

Survey type and number of surveys undertaken	Extent of survey overlap with the Proposed Development (km)	Extent of survey within the Marine Mammal Study Area (km)	Extent of survey within the Extended Marine Mammal Study Area (km)	Cumulative survey coverage (km - based on total number of surveys)
ObSERVE Phase II (3 surveys undertaken)	1.99	24.2	37.4	112.2
Site-specific DAS before May 2025 (40 surveys undertaken)	70	339.75	n/a	13,590.19
Site-specific DAS after May 2025 (3 surveys undertaken)	70	n/a	480.52	1,441.58

3.2.5.1 It is therefore considered inaccurate to state that the ObSERVE Phase II data *"would add more recent spatially extensive coverage that could refine local density and distribution, and in particular seasonal patterns."*

3.2.6.1 The site-specific DAS survey area includes a buffer which extends a minimum of 4 km on all sides from the Array Area and up to the coast on the western side (i.e. the Marine Mammal Study Area). Furthermore, there was an extension of the DAS buffer to 10 km from May 2025 therefore providing greater spatial coverage (i.e. the Extended Marine Mammal Study Area). This represents a larger survey area than the industry standard of a 4 km buffer around the Array Area. The site-specific DAS comprised 20 transects within the Marine Mammal Study

Area and thus represents a considerably finer spatial resolution than the ObSERVE Phase II surveys, which consisted of only one survey transect in the Marine Mammal Study Area and two transects in the Extended Marine Mammal Study Area.

3.2.7.1 Additionally, the site-specific DAS aligned with the following requirements:

- The NPWS guidance which states *"All survey data should be collected within 12-18 months of your application"* (NPWS, 2026).
- DCCAE (2018) guidance which states "i*t is recommended that at least two years and preferably, three years (e.g. AMETS) of pre-construction data is required to account for inter-annual variability, with two years considered an absolute minimum where data is lacking".*
- The recommendations from Crouch et al. (2026) for site-level surveys including:
  - *"Frequency of surveys related to site-level studies (e.g. EIA related) should meet minimum requirements according to local regulations (e.g. baseline monthly surveys)".*
  - *"Where feasible, repeated surveys within a required time frame (e.g. monthly or seasonal estimate) reduce the stochastic variability associated with individual survey observations and may improve stability of estimated densities".*

3.2.8.1 The ObSERVE II data does not align with the NPWS or DCCAE guidance in terms of the timing and duration of surveys respectively. Further, some relevant limitations of the ObSERVE surveys are reiterated in Crouch *et al.* (2026), where it says:

"*surveys capture animal distributions at a single point in time (snapshot), which may not necessarily represent typical or average conditions. Marine mammals and seabirds often exhibit short-term movements in response to prey dynamics or environmental processes. If surveys coincide with atypical conditions (e.g. a prey bloom or weather anomaly), modelled distributions may be biased or misrepresented without more frequently repeated surveys. It also means that trend estimation may be less reliable, as apparent spatial differences may reflect the snapshot instance rather than real ecological change".*

3.2.9.1 The paper (Crouch *et al.* 2026) goes on to highlight that:

"*Whilst broad scale initiatives such as ObSERVE and SCANS provide important information on region-wide seabird and marine mammal distributions and population trends, the scale of the initiatives, and associated financial and logistical constraints, often limits temporal coverage to every few years or decades. They also tend to be confined to a one-month period in summer and therefore do not account for seasonal variation. By contrast, site-level surveys may inform more detailed temporal coverage, improving understanding of local-scale seasonal processes, but generally lack the broader context of species distributions.*"

3.2.10.1 Notwithstanding the above, the ObSERVE Phase II density distribution maps (Refer to Figure 1 and Figure 2) indicate that during summer 2021 (i.e. when the highest harbour porpoise densities were recorded in Stratum 5), distribution was predominantly concentrated in the northern Irish Sea, i.e. more than 50 km from the Marine Mammal Study Area. In addition, only three harbour porpoise were recorded within the Marine Mammal Study Area and Extended Marine Mammal Study Area across all ObSERVE II surveys, demonstrating that that the occurrence of harbour porpoise within and around the vicinity of the Proposed Development is relatively low.

3.2.11.1 Therefore, while the value of ObSERVE II data is recognised for providing broader regional context of harbour porpoise within the Irish Sea, the site-specific DAS are considered the most appropriate for deriving local densities and quantifying deliberate disturbance at the local scale. The site-specific DAS provides greater temporal and spatial coverage, captures seasonal and inter-annual variable and complies with the relevant guidance.

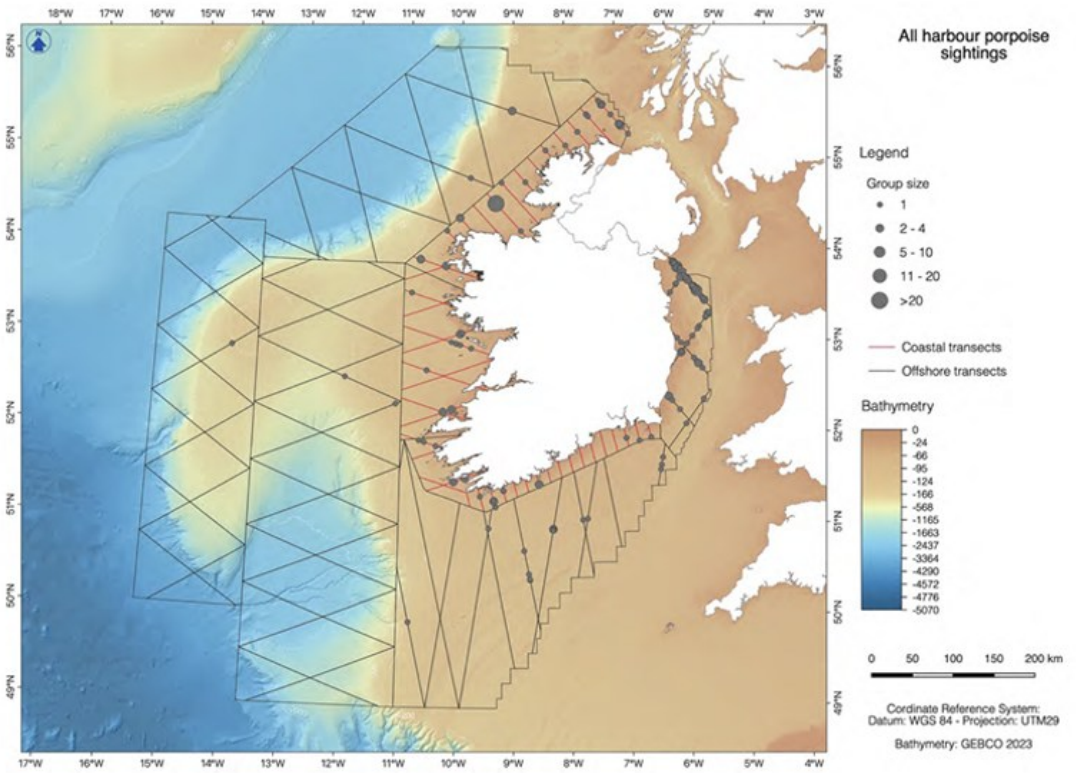


Figure 1: Sightings of harbour porpoise across all surveys (taken from Figure 3.58 of Giralt Paradell *et al.* (2024))

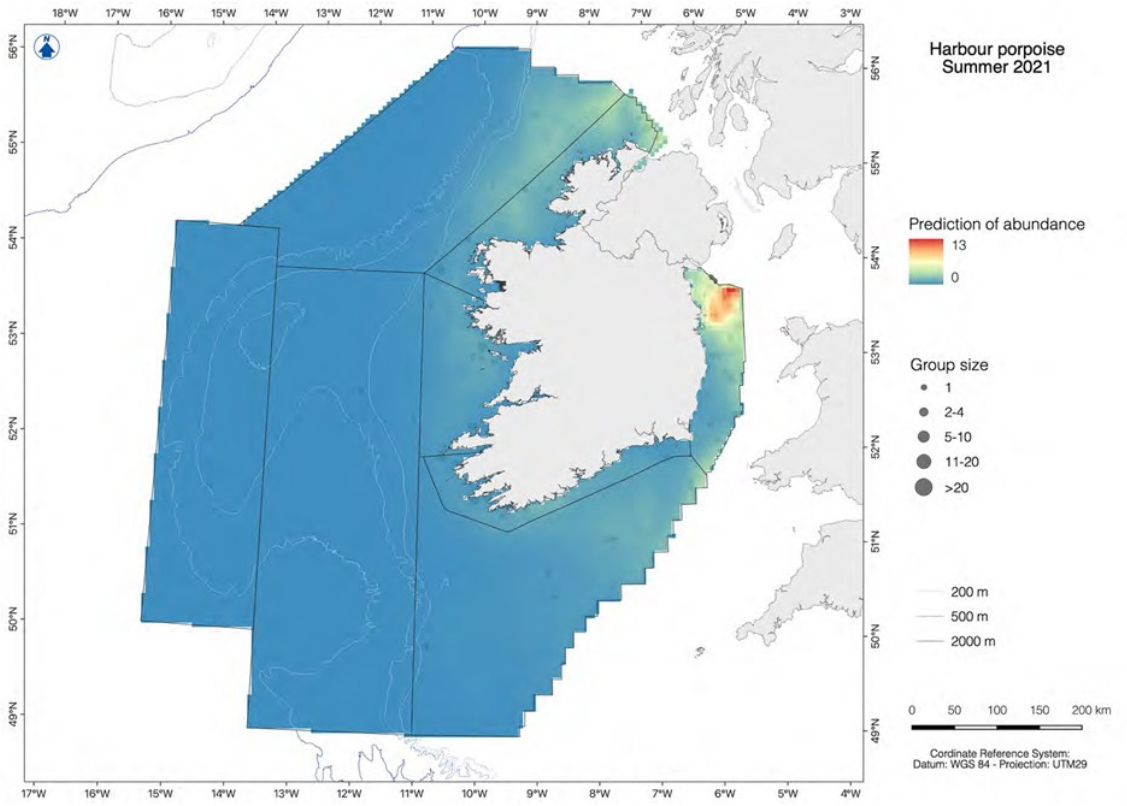


Figure 2: Predicted density distributions of harbour porpoise for summer 2021 (taken from Figure 3.59 of Giralt Paradell *et al.* (2024)

2.3.3 Scale considered

Request Received

3.3.1.1 *The applicant assumes relatively stable MU-scale context (section 5.3.3.13), whereas Goh et al. (2025) suggest regional contractions and redistribution, which strengthens the argument for a precautionary interpretation of inadequate status and the need to avoid adding pressure in key remaining areas.*

Response to Request

3.3.2.1 Regulation 54(2) of the Habitat Regulations states that:

"Where there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range, the Minister, or the Minister or Ministers of Government with responsibilities for fish species referred to in the Fourth Schedule, may grant such a derogation licence to one or more persons…".

3.3.3.1 Therefore, in order to pass Test 3, it is imperative to understand the population and the natural range of the species before a derogation licence can be granted and this is reiterated in the NPWS guidance (NPWS, 2026) which states:

"If a derogation is likely to have a significant negative effect on the population concerned (or the future prospects for this population) or is likely to have a significant negative effect at the national or biogeographical level, then a derogation cannot be considered."

3.3.4.1 The MU scale represents industry best practice and is considered the most appropriate scale at which to assess effects on the population because it is based on current understanding of biological populations and ecological differentiation within such populations (IAMMWG, 2023). The species' natural range in Irish waters is a small component of its wider North Atlantic range with movements occurring both within and outside the marine jurisdictions of many States (NPWS, 2025). For the purpose of the derogation licence application, the MU has been considered as a subset of the natural range for each species, noting that the natural range of the relevant Annex IV cetacean species is significantly greater than their respective MUs. In the case of harbour porpoises whilst they are highly mobile and regularly move across large geographic areas, local or regional changes in density or distribution do not necessarily mean a decline in the overall population at the biogeographical level (i.e. MU scale).

3.3.5.1 The Applicant acknowledges that the Goh *et al.* (2025) paper identifies potential regional contractions and redistribution of harbour porpoise in the Irish Sea and recognises the value of this research in improving understanding of distributional trends for harbour porpoise in the Irish Sea. However, Goh *et al.* (2025) does not consider or evaluate the overall population stability of harbour porpoise at the MU scale.

3.3.6.1 Furthermore, Goh *et al.* (2025) notes uncertainty in the underlying drivers and states:

"While it may be possible that harbour porpoises in this region have redistributed to adjacent waters, there is currently no clear evidence of a substantial shift in distribution".

3.3.7.1 Therefore, the Goh *et al.* (2025) paper does not provide evidence of a decline in the overall MU population and should not be interpreted as a reduction the population size. Accordingly, the existence of a potential distributional change within the Irish Sea does not alter the evidence presented and conclusions made by the Applicant in Section 5.3 of the Supporting Document (i.e. to understand the effects of deliberate disturbance on Annex IV cetacean species at the MU scale).

3.3.8.1 The purpose of Section 5.3 of the Supporting Document is not to make assumptions regarding the overall conservation status or population stability of the species at MU scale, but rather to

provide the evidence that the deliberate disturbance arising from the activity requiring derogation (i.e., piling), would not be detrimental to the maintenance or restoration of FCS for the populations concerned.

3.3.9.1 This approach complies with European Commission guidance (2021) which states:

"Implementation of this provision should include a two-step assessment: firstly, to assess the conservation status of the specific populations of a species in its natural range within the Member State concerned (and possibly beyond national boundaries if the populations are shared with neighbouring countries) and, secondly, an evaluation of the impact of the derogation on the conservation status of the specific population or populations concerned".

3.3.10.1 The Applicant has undertaken both steps described in the EC guidance for all Annex IV cetacean species, with harbour porpoise provided as an example below:

- Firstly, the Applicant has assessed the conservation status of harbour porpoise and stated in Section 5.3.4.35 of the Supporting Document that *"Harbour porpoise is currently reported as having an overall conservation status of inadequate in Irish waters due to uncertainty in the population and Unfavourable—inadequate in UK waters"*. This reflects the relevant statutory conservation status reporting, specifically for Ireland, and aligns with NPWS (2025) which concludes that *"the Overall Status of Harbour Porpoise in Ireland is Inadequate with a stable trend"*. Therefore, the Applicant has not intended to draw conclusions on the population stability of harbour porpoise at the MU population scale as a whole. Instead, consideration has been given as to whether deliberate disturbance arising from the activity requiring derogation (i.e., piling) will result in changes to the MU population stability relative to a scenario in which the Proposed Development (and thus the activity requiring derogation) does not occur. Furthermore, a more precautionary approach or interpretation of the conservation status for harbour porpoise is not warranted as the derogation licence application has been made on the basis of and recognises that harbour porpoise are reported as an inadequate conservation status.
- Secondly, evidence has been presented in Section 5.3 of the Supporting Document to demonstrate that deliberate disturbance from the activity requiring derogation (i.e. piling) would not be detrimental to the maintenance or restoration of the FCS of the population within their natural range on a long term basis. For the purpose of the derogation licence application, the MU has been considered as a subset of the natural range for each species, noting that the natural range of the relevant Annex IV cetacean is significantly greater than their respective MUs. Therefore, any effects predicted represent a small proportion of the species' wider natural range. To address this, the Applicant undertook Interim Population Consequences of Disturbance (iPCoD) modelling[3] for harbour porpoise, bottlenose dolphin and minke whale to determine whether deliberate disturbance from the activity requiring derogation (i.e., piling) will be detrimental to the maintenance or restoration of the FCS of the populations concerned. The iPCoD modelling results (which are available in Annex L to the Supporting Document) showed that the level of deliberate disturbance from the activity requiring derogation (i.e. piling) will not result in any changes at the population level for harbour porpoise, minke whale and bottlenose dolphin. The results showed the impacted population (i.e. the population experiencing deliberate disturbance associated with the Proposed Development) continued at a stable or increasing population trajectory up until 2052, which is the same size as the unimpacted population (i.e. in the absence of deliberate disturbance

[3] iPCoD modelling is not possible for other Annex IV cetacean species

associated with the Proposed Development), therefore not leading to a change in survival, breeding success or reproductive ability of the species. Deliberate disturbance from the activity requiring derogation (i.e., piling) will therefore not reduce nor is likely to reduce the natural range of the species for the foreseeable future, as any change in distribution is predicted to be temporary, and is not enough to affect the population trajectory.

3.3.11.1 The Applicant therefore remains confident that the evidence and conclusions presented are consistent with the legislative requirements and comply with the relevant European Commission and NPWS guidance – i.e. the activity requiring derogation will not be detrimental to the maintenance or restoration of FCS for the population of the species in their natural range.

2.3.4 Terminology Applied

Request Received

3.4.1.1 *Labelling displacement as Slight does not account for how that localized displacement interacts with the regional contractions and redistributions happening simultaneously across the Management Unit (MU) as highlighted by Goh et al. (2025). A slight displacement is arrived at using the lower EIA criteria and outdated data, additional analysis is needed to explore whether in an already shrinking habitat displacement may have implications for population dynamics, which could undermine conservation status for the species.*

Response to Request

3.4.2.1 The Applicant confirms Slight in this context was used to align the terminology adopted within the EIAR which has been included as Annex E to the Supporting Document. However, the intent of Section 5.3 of the Supporting Document and purpose of Test 3 of the derogation licence is not to assess the significance of effect in EIA terms, but rather to determine whether the activity requiring derogation (i.e., piling) would be detrimental to the maintenance or restoration of the Favourable Conservation Status (FCS) of Annex IV cetacean populations in their natural range.

3.4.3.1 the findings of the Goh *et al.* (2025) report are acknowledged regarding declines in harbour porpoise occurrence within the Irish Sea and contractions in their distribution. Whilst this is useful contextualisation of localised population dynamics, Test 3 requires consideration of whether the specific derogation that is being sought "*is likely to have a significant negative effect on the population concerned (or the future prospects for this population) or is likely to have a significant negative effect at the national or biogeographical level, then a derogation cannot be considered.*"

3.4.4.1 As described in detail in Section 2.3.3, the MU scale represents the appropriate scale against which to assess population-level effects.. However, additional analysis has been undertaken as requested.

3.4.5.1 Recent empirical evidence (Weller *et al.,* 2026) from other offshore wind farm developments indicates that behavioural disturbance from pile-driving had minimal impacts on the dynamics of wider harbour porpoise population, and did not lead to long term or permanent displacement.

3.4.6.1 Weller *et al.* (2026) used a DEPONS model to investigate the response of harbour porpoise populations at different spatial scales to the noise from piling operations and vessel traffic at the Moray Firth offshore wind farm. Specifically, Weller et al. (2026) reported that:

- *"The model results indicate that the harbour porpoise population at larger spatial scales than that of the Moray Firth is unlikely to be affected by noise disturbance from piling and ships that was implemented in our simulations" and*

- *"this suggests that the noise disturbance was too localized and intermittent to cause simulated porpoises to consistently avoid the area" and*
- *"the simulations offer no convincing indication that the modelled disturbance and food differences between scenarios would lead to long-term differences in population development at regional and smaller spatial scales."*

3.4.7.1 The Weller et al. (2026) paper also stated that:

"*at larger temporal scales the population may in fact be unaffected by offshore windfarms, as the area can be easily repopulated through immigration from areas with higher population densities after a disturbance ends.*"

3.4.8.1 Additionally, studies at two offshore wind farms in Scotland (Beatrice Offshore Windfarm and Moray East Offshore Windfarm) showed that harbour porpoise detections of clicks, associated with echolocation, and buzzing, associated with prey capture, in the short range (2 km) did not cease in response to piling. Benhemma-Le Gall *et al. (*2021) reported that:

"*porpoises that remained in the impact block during pile-driving at Beatrice in 2017 also reduced their buzzing activity by 4.2% compared to baseline but, in contrast, buzzing activity during Moray East piling in 2019 was higher than baseline".*

3.4.9.1 This suggests that porpoises were not entirely displaced from the area where piling occurred (Benhemma-Le Gall et al., 2021).

3.4.10.1 Whilst Goh *et al.* (2025) specifically focuses on harbour porpoise, empirical evidence also indicates that behavioural disturbance from piling will not lead to long-term displacement to other Annex IV cetacean species, such as bottlenose dolphin.

3.4.11.1 A study of bottlenose dolphin response to impulsive noise (including the piling campaigns of Beatrice offshore wind farm and Moray East offshore wind farm, northeast Scotland), concluded that piling did not cause displacement of bottlenose dolphins from the southern coast of the Moray Firth (Fernandez-Betelu et al., 2021).

3.4.12.1 Specifically, Fernandez-Betelu *et al.*, 2021 stated:

"*The results of this study suggest that the impulsive noise generated by offshore activities did not cause any dolphin displacement from the southern coast of the Moray Firth".* and

"No displacement from the outer toward the inner array was observed during piling days while a subtle but consistent increase in dolphin detections was observed on both arrays."

3.4.13.1 The findings from this study suggest that piling did not cause long-term or permanent displacement of bottlenose dolphin.

3.4.14.1 There is a lack of studies demonstrating the effects of pile driving on other Annex IV cetacean species. However, given that harbour porpoise are considered the most sensitive Annex IV cetacean species to impulsive noise, they represent a precautionary basis for the consideration of deliberate disturbance to other Annex IV cetacean species. Additionally, as Risso's dolphin and common dolphin are in the same hearing group as bottlenose dolphin and thus they can be used as a proxy for conclusions.

3.4.15.1 Therefore, the empirical evidence is consistent with the evidence provided in the Supporting Document and conclusions by the Applicant that the activity requiring derogation (i.e., piling) is not detrimental to the maintenance or restoration of FCS for the populations of the species in their natural range, taking into account the interaction between localised displacement and regional changes.

3.4.16.1 Additionally, the reference to outdated data has not been substantiated – the derogation licence application has presented the best available and most appropriate scientific evidence including extensive site-specific DAS up to and including 2025. As outlined in 2.3.2, the site-

specific DAS data is considered the most appropriate and complies with the relevant guidance. Therefore, the Applicant does not agree that outdated data has been used to support the derogation licence application. The Applicant therefore remains confident that the evidence complies with the relevant guidance and best practice.

2.3.5 Behavioural Types

Request Received

3.5.1.1 *Behavioural type is not adequately considered in the assessment. A pregnant, nursing, or mother-calf pair represent highly sensitive behavioural types, whose stress and energy expenditure of displacement may impact population dynamics.*

Response to Request

3.5.2.1 Sensitive behavioural types have been factored into the iPCoD modelling, which has been provided as evidence to support the derogation licence application (Annex L to the Supporting Document). As noted in Section 3.3.10.1, IPCoD modelling has been undertaken for harbour porpoise, bottlenose dolphin and minke whale.

3.5.3.1 As presented in Section 2.1 of Annex L, iPCoD uses a stage-structured model of population dynamics with nine age classes and one stage class (adults 10 years and older). A number of demographic parameters are incorporated into the iPCoD model including calf/pup survival, juvenile survival, adult survival, fecundity rate, proportion of females in the population, age at which a calf/pup becomes independent of its mother, age at which an average female gives birth to her first calf/pup and proportion of animals in each vulnerable component of the population.

3.5.4.1 Specifically in relation to harbour porpoise, the iPCoD model incorporates expert opinion from expert elicitation which was undertaken in 2018 considering effects on reproduction and calf survival, including nursing females and calves (Refer to Section 2.1.1.1 of Annex L):

"*The elicitation assumed that the behaviour of the disturbed porpoise would be altered for 6 hours on the day of disturbance, and that no feeding (or nursing) would occur during the 6 hours of disturbance. The experts agreed that first year calf survival (post-weaning) and fertility were the most likely vital rates to be affected by disturbance, but that juvenile and adult survival were unlikely to be significantly affected as these life-stages were considered to be more robust. • Experts agreed it would likely take high levels of repeated disturbance to an individual before there was any effect on that individual's fertility (Figure 1), and that it was very unlikely an animal would terminate a pregnancy early. • Experts considered that there are critical periods in the first year where calf survival could be reduced by a relatively small number of days of disturbance (Figure 2)".*

3.5.5.1 It is noted in Section 2.1 of Annex L that the iPCoD model for bottlenose dolphin and minke whale disturbance incorporates expert opinion from expert elicitation which was undertaken in 2013 (Harwood *et al*., 2014). The expert elicitation was used to quantify the potential effects of behavioural and physiological changes on vital rates to provide parameter values for functions that form part of the iPCoD model (Harwood *et al.,* 2014).

3.5.6.1 Therefore, sensitive behavioural types are incorporated into the iPCoD model (for harbour porpoise, bottlenose dolphin and minke whale) presented in Annex L as evidence to support the conclusion that the activity requiring derogation (i.e., piling) will not be detrimental to the maintenance or restoration of FCS of the populations of the Annex IV cetacean species.

3.5.7.1 The analyses has been presented in Table 3-6 and Table 5-12 of the Supporting Document, using a dose-response function (Graham *et al.,* 2017) (for harbour porpoise) and Level B Harassment thresholds (National Oceanic and Atmospheric Administration (NOAA, 2005) (for all other Annex IV cetacean species) to quantify the predicted effects of deliberate disturbance

on Annex IV cetacean species from the activity requiring derogation (i.e., piling). In accordance with the precautionary principle, these approaches are considered inherently conservative, therefore ensuring that potential variability in sensitivities of different life stages and behavioural types is appropriately considered.

3.5.8.1 In relation the dose response function, Thompson *et al.* (2025) reported that in-field measurements of behavioural response from harbour porpoise at Moray West offshore wind farm were much lower than those predicted using the Graham *et al.* (2017) dose-response function.

3.5.9.1 Thompson *et al. (*2025) reported:

"*However, measured behavioural responses of harbour porpoises were much lower than those predicted from the Graham et al. (2017) dose-response function that is currently recommended for regulatory assessments in Scottish waters (Figure 8). In combination, this suggests that current assessments of disturbance impacts are overly conservative."*

3.5.10.1 This indicates that the dose-response function (Graham *et al.,* 2017) likely overestimates the number of harbour porpoise predicted to experience deliberate disturbance from the activity requiring derogation (i.e., piling) and represents a precautionary approach, considering different behavioural types.

3.5.11.1 Additionally, Level B harassment refers to acts that have the potential to disturb a marine mammal or marine mammal stock in the wild, by causing disruption of behavioural patterns including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering, but which does not have the potential to injure a marine mammal or marine mammal stock in the wild (NOAA, 2005). Therefore, the Level B Harassment thresholds (NOAA, 2005) considers disruption to different behavioural patterns which may be more sensitive to disturbance, such as breeding and nursing.

3.5.12.1 On this basis, the Applicant is confident that sufficient evidence has been provided which incorporates different behavioural types. The Applicant is confident that the granting of the derogation licence will not be detrimental to the maintenance or restoration of FCS for the population of all Annex IV cetacean species, considered in the derogation licence in application, in their natural range to which the Habitats Directive relates.

2.3.6 Mapping of Characteristics

Request Received

3.6.1.1 *Although population trajectory, range, and habitat are discussed the impacts to the Favourable Conservation Status criteria of population dynamics, natural range and habitat availability are not explicitly mapped.*

Response to Request

3.6.2.1 The Applicant notes the comment and interprets this request to relate to spatial mapping of those criteria. However it is not considered feasible or informative to spatially map the population dynamics, natural range or habitat availability of the relevant Annex IV cetacean species in the context of this derogation application. However, the Favourable Conservation Status criteria of population dynamics, natural range and habitat availability of the relevant Annex IV cetacean species in the context of this derogation application are discussed in further detail below.

3.6.3.1 In relation to **population dynamics**, Figure 4 of the Supporting Document presents the MUs for each Annex IV cetacean species which has been used to define the relevant populations. The MU scale is considered the most appropriate scale at which to assess effects on the population as noted in Section 2.3.3, because it is based on current understanding of

biological populations and ecological differentiation within such populations (IAMMWG, 2023).

3.6.4.1 Population modelling has been undertaken (i.e. iPCoD model in Annex L to the Supporting Document) to support the conclusion that deliberate disturbance from the activity requiring derogation (i.e., piling) will not be detrimental to the maintenance or restoration of the FCS of the population. The IPCoD model has been undertaken for harbour porpoise, minke whale and bottlenose dolphin[3], with the results as follows:

- For harbour porpoise, the results of the population modelling showed that impacted population (i.e. the population experiencing deliberate disturbance from the activity requiring derogation) is predicted to continue at a stable trajectory never falling below 99.89% as compared to the mean un-impacted population (i.e. in the absence of the Proposed Development).
- For bottlenose dolphin, the mean impacted population size initially decreases very slightly as compared to the mean un-impacted population size in response to piling. However, shortly after piling the impacted population continues on the same, stable trajectory never falling below 98.09% of the mean un-impacted population size.
- For minke whale, impacted population is predicted to continue at a stable trajectory at exactly the same size as the un-impacted population.

3.6.5.1 There is no iPCoD model available for Risso's dolphin and common dolphin, however the proportion of the population predicted to experience deliberate disturbance is less than 1% for both species. Therefore, deliberate disturbance from the activity requiring derogation (i.e., piling) is not predicted to affect the population trajectory, nor be detrimental to the maintenance of the FCS of the populations.

3.6.6.1 While deliberate disturbance is predicted to occur, the effects are temporary, recoverable and not expected to be detrimental to the maintenance or restoration of FCS of the population of the Annex IV cetacean species in their natural range to which the Habitat Directive relates to.

3.6.7.1 In relation to natural range, Annex IV cetacean species are highly mobile and occur across ranges that extend beyond Irish waters. The species' natural range in Irish waters is a small component of its wider North Atlantic range with movements occurring both within and outside the marine jurisdictions of many States (NPWS, 2025). For the purpose of the derogation licence application, the Applicant has considered the MU as a subset of the natural range for each species, noting that the natural range of the relevant Annex IV cetacean is significantly greater than their respective MUs (Section 5.3.3.13 of the Supporting Document). Therefore, assessment of the deliberate disturbance at the MU scale (as depicted in Figure 4 of the Supporting Document) represents a conservative approach for determining that deliberate disturbance from the activity requiring derogation (i.e., piling) will not be detrimental to the maintenance or restoration of FCS of the population of the Annex IV cetacean species in their natural range to which the Habitat Directive relates to.

3.6.8.1 In relation to habitat availability, it is not possible to define or spatially map habitat availability for Annex IV cetacean species given their highly mobile nature and the absence of discrete habitat boundaries within the marine environment. Habitats vary spatially and temporally in response to environmental conditions and prey availability, and therefore there are no clearly defined habitat boundaries which could be meaningfully mapped for this purpose. It has been concluded in Section 5.3 and 7 of the Supporting Document that the natural range of the species will not be reduced, either now or in the foreseeable future, and sufficient habitat will remain available to support the species on a long-term basis.

3.6.9.1 This conclusion is supported by empirical evidence which have shown through detection rates that harbour porpoise were only displaced from the area for a short period (Brandt *et al.,* 2011; Brandt *et al.*, 2016; Brandt *et al.,* 2018; Dähne *et al.,* 2013), and that harbour porpoise

returned to the area within one to three days. Therefore, any deliberate disturbance from the activity requiring derogation (i.e., piling) is not expected to result in permanent habitat loss or exclusion on a long-term basis.

3.6.10.1 For instance, Brandt *et al.* (2011) reported:

"At the closest distance studied (2.5 km), porpoise activity was reduced between 24 to 72 h after pile driving activity, and the duration of this effect gradually declined with distance".

3.6.11.1 Additionally, Brandt *et al.* (2018) reported:

"*Within the vicinity (up to about 2 km) of the construction site, porpoise detections declined several hours before the start of piling and were reduced for about 1−2 d after piling, while at the maximum effect distance, avoidance was only found during the hours of piling.*"

3.6.12.1 Fernandez-Betelu *et al. (*2021) provided evidence on bottlenose dolphin response to impulsive noise (including the piling campaigns of Beatrice offshore wind farm and Moray East offshore wind farm, northeast Scotland). Fernandez-Betelu *et al. (*2021) reported:

"*The results of this study suggest that the impulsive noise generated by offshore activities did not cause any dolphin displacement from the southern coast of the Moray Firth"* and

"No displacement from the outer toward the inner array was observed during piling days while a subtle but consistent increase in dolphin detections was observed on both arrays."

3.6.13.1 The findings from this study indicate that piling did not cause long-term or permanent displacement of bottlenose dolphin. Therefore, any deliberate disturbance from the activity requiring derogation (i.e., piling) is not expected to result in permanent habitat loss or exclusion on a long-term basis.

3.6.14.1 There is a lack of studies demonstrating the effects of piling on other Annex IV cetacean species. However, given that harbour porpoise are considered the most sensitive Annex IV cetacean species to impulsive noise, they represent a precautionary basis for the consideration of deliberate disturbance on all Annex IV cetacean species. Additionally, as Risso's dolphin and common dolphin are in the same hearing group as bottlenose dolphin, they can be used as a proxy for conclusions from the Fernandez-Betelu *et al. (*2021) study.

3.6.15.1 In summary, any deliberate disturbance from the activity requiring derogation (i.e., piling) is temporary and not expected to result in permanent habitat loss or exclusion on a term long-term basis.

3.6.16.1 On this basis, the Applicant is confident that deliberate disturbance from the activity requiring derogation (i.e., piling) will not be detrimental to the maintenance or restoration of FCS for the populations of all Annex IV cetacean species, considered in the derogation licence application, in their natural range to which the Habitat Directive relates to.

2.3.7 Cumulative Assessment

Request Received

3.7.1.1 *There is no discussion in the application or supporting document on the cumulative pressures or how the disturbance from piling interacts with shipping noise, other offshore wind, fisheries, seismic survey, or indeed regional contraction (Goh et al. 2025).*

Response to Request

3.7.2.1 The Applicant acknowledges that Goh *et al.* (2025) identifies a range of existing and potential pressures acting on harbour porpoises, including commercial fisheries, maritime transport, offshore renewable energy and marine pollution.

3.7.3.1 The existence of cumulative pressures and interactions are factored into the consideration of the conservation status of the Annex IV cetaceans, including harbour porpoise, which is the focal species considered by Goh *et al.* (2025).

3.7.4.1 Section 5.3.4.35 of the Supporting Document states that "*Harbour porpoise is currently reported as having an overall conservation status of inadequate in Irish waters due to uncertainty in the population and Unfavourable—inadequate in UK waters*". This reflects the relevant statutory conservation status reporting and, specifically for Ireland, and aligns with NPWS (2025) which concludes that *"the Overall Status of Harbour Porpoise in Ireland is Inadequate with a stable trend*". In reaching this conclusion, NPWS (2025) highlights that "*Pressures on this species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from geophysical seismic exploration or from local/regional prey removal by fisheries or bycatch in fisheries*". Therefore, cumulative pressures and interactions are inherently factored into the NPWS (2025) assessment of conservation status for the Annex IV cetacean species, which has been used to inform this derogation licence application.

3.7.5.1 Goh *et al.* (2025) identifies uncertainty in the underlying drivers of these reported distributional changes for harbour porpoise in the Irish Sea, and does not evaluate the relative contribution of the pressures or activities identified. For instance, Goh *et al.* (2025) states the following:

- *"These results may reflect the species' response to a changing environment, highlighting the need for further investigation into the underlying drivers" and*
- *"In the Irish and Celtic Seas, ecosystem alterations have been documented over the past three decades, marked by shifts in the abundance and distribution of fish stocks driven by fishing pressure and changes in sea temperature. It is therefore reasonable to postulate that the contraction in harbour porpoise distribution that we described may be in part due to shifts in prey distribution and abundance driven by environmental change. However, further investigation is required to elucidate these processes."*

3.7.6.1 The Applicant therefore acknowledges that cumulative pressures exist within the Irish Sea and that these may contribute to the current conservation status of all Annex IV cetacean species. However, such pressures are inherently reflected within the current conservation status assessments that have been undertaken by NPWS (2025),

3.7.7.1 While Goh *et al.* (2025) reports changes in harbour porpoise distribution, it does not provide evidence that would alter the conclusions that the activity requiring derogation (i.e., piling) will not be detrimental to the restoration of the population of harbour porpoise at FCS in their natural range.

3.7.8.1 Notwithstanding the above, the Applicant has presented in-combination effects from other offshore wind farm projects using the cumulative iPCoD model (Annex L to Supporting Document). This cumulative iPCoD model incorporates cumulative disturbance resulting from pile driving activities across the five Irish Phase 1 Offshore Windfarm Projects. It can be considered the most precautionary and representative of the maximum disturbance across the Phase 1 projects as in practice, the disturbance impacts are expected to be reduced compared to the assessment, be it through the implementation of noise abatement and / or mitigation measures.

3.7.9.1 Furthermore, there is no legal requirement under Test 3 for the Applicant to consider cumulative pressures or the interaction of the activity requiring derogation (i.e., piling) with other industries or activities.

3.7.10.1 The Applicant therefore remains confident that the evidence and conclusions presented are consistent with the legislative requirements and comply with relevant European Commission

and NPWS guidance – i.e. the activity requiring derogation will not be detrimental to the maintenance or restoration of the population of the species at FCS in their natural range.

2.3.8 Net Result of Derogation

Request Received

3.8.1.1 *Clarification is needed to determine whether the net result on harbour porpoise conservation status from this activity will be, at worst, neutral or, at best, positive for this species. The application should also clearly specify whether the derogation is likely to have a significant negative effect on harbour porpoise population, or the future prospects for this population, or if it is likely to have a significant negative effect on this species at a national or biogeographical level. Furthermore, clarification is required as to whether the restoration of harbour porpoise conservation status could potentially be prevented by this activity.*

Response to Request

3.8.2.1 The Applicant has presented the evidence to demonstrate that the activity requiring derogation (i.e., piling) will not be detrimental to the maintenance or restoration of FCS for the populations of the species, within their natural range in Section 5.3 of the Supporting Document. Specifically in the case of harbour porpoise, the Applicant has concluded that the activity requiring derogation (i.e., piling) will neither deteriorate the conservation status nor impede the achievement or restoration of FCS. Therefore, the net result on the conservation status of harbour porpoise from the activity requiring derogation (i.e. piling) will neutral for harbour porpoise.

3.8.3.1 In summary, the Applicant has assessed deliberate disturbance from the activity requiring derogation (i.e. piling) at the MU population scale. The Applicant quantified the predicted effects of deliberate disturbance on harbour porpoise using the behavioural dose-response function (Graham *et al.,* 2017). The dose-response function predicted that up to 3.05% of the MU population may experience deliberate disturbance from the activity requiring derogation (i.e., piling) and the consequence is expected to be low and unlikely to cause any long term population effect.

3.8.4.1 The Applicant has then undertaken population modelling (i.e. using an iPCoD model) to determine whether deliberate disturbance from the activity requiring derogation (i.e. piling) will be detrimental to the restoration of the FCS of the harbour porpoise population. The results of the population modelling showed that the level of deliberate disturbance will not result in any changes at the population level. For harbour porpoise, the impacted population (i.e., the population experiencing deliberate disturbance from the activity requiring derogation) is predicted to continue at a stable trajectory never falling below 99.89% as compared to the mean un-impacted population (i.e. in the absence of the Proposed Development/activity requiring derogation) up until 2052. The effects of the activity requiring derogation (i.e. piling) are temporary, recoverable and not expected to be detrimental to the maintenance of the population.

3.8.5.1 Furthermore, the natural range of the species will not be reduced, either now or in the foreseeable future, and sufficient habitat will remain available to support the species on a long-term basis. Studies have shown through detection rates that harbour porpoise were only displaced from the area for a short period (Brandt *et al.,* 2011; Brandt *et al.,* 2016; Brandt *et al.*, 2018; Dähne *et al.,* 2013), and that harbour porpoise returned to the area within one to three days.

3.8.6.1 For instance, Brandt *et al.* (2011) reported:

"*At the closest distance studied (2.5 km), porpoise activity was reduced between 24 to 72 h after pile driving activity, and the duration of this effect gradually declined with distance*".

3.8.7.1 Additionally, Brandt *et al.* (2018) reported:

"Within the vicinity (up to about 2 km) of the construction site, porpoise detections declined several hours before the start of piling and were reduced for about 1−2 d after piling, while at the maximum effect distance, avoidance was only found during the hours of piling."

3.8.8.1 Therefore, any deliberate disturbance from the activity requiring derogation (i.e., piling) is not expected to result in permanent habitat loss or exclusion on a term long-term basis.

3.8.9.1 To support the derogation licence application, the Applicant has also undertaken an analysis using a dose-response function (Graham *et al.* 2017) to quantify the predicted effects of deliberate disturbance on Annex IV cetacean species from the activity requiring derogation (i.e., piling). Studies have also shown that application of the Graham *et al.* (2017) dose-response function may substantially overpredict the number of animals disturbed. For example, Thompson *et al.* (2025) reported that in-field measurements of behavioural response from harbour porpoise at Moray West offshore wind farm were much lower than those predicted using the Graham *et al.* (2017) dose-response function. This indicates that the evidence presented is inherently conservative, in accordance with the precautionary principle and supports the conclusion that that the activity requiring derogation (i.e., piling) will have a neutral effect on the conservation status of harbour porpoise. On this basis, the Applicant has concluded in Section 5.3.5.2 of the Supporting Document, that the activity requiring derogation will have a neutral result on the conservation status of harbour porpoise.

3.8.10.1 The evidence submitted in relation to Test 3 (i.e. Section 5.3 of the Supporting Document) demonstrates that deliberate disturbance would not result in negative effect on the population, or the future prospects for this population, nor is it likely to have a significant negative effect on this species at a national or biogeographical level. Due to the temporary and reversible nature of the deliberate disturbance from the activity requiring derogation (i..e, piling), the Applicant is confident the granting of the derogation will not prevent the restoration of the FCS for the populations of harbour porpoise in their natural range.

3 Conclusion

Detailed responses to the NPWS RFI have been set out in this document. The Applicant considers that the derogation licence application documents, read in conjunction with this NPWS RFI response, demonstrate that Test 2 and Test 3 have been met.

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