Inverdee House, Baxter Street,
Aberdeen, AB11 9QA, United Kingdom

Email: OIA@jncc.gov.uk
[redacted]
jncc.gov.uk

The Planning Inspectorate
National Infrastructure Planning
Temple Quay House
2 The Square
Bristol
BS1 6PN
United Kingdom

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By email: monaoffshorewindproject@planninginspectorate.gov.uk

To whom it may concern,

Mona Offshore Wind Project Development Consent Order Application – Environmental Statement and Management Plans – EN010137 – Response to comments on Relevant Representation

Thank you for consulting JNCC on the Mona Offshore Wind Project Development Consent Order (DCO) Application including the Environmental Statement (ES) and Management Plans.

The advice contained within this minute is provided by JNCC as part of our statutory advisory role to the UK Government and devolved administrations on issues relating to nature conservation in UK offshore waters (beyond the territorial limit). We have subsequently concentrated our comments on aspects of the documents that we believe relate to offshore waters and defer to comments provided by Natural Resources Wales Advisory (NRW-A) for aspects relating to inshore waters and Natural England (NE) were appropriate.

The advice below relates to marine ornithology, marine mammals, and offshore benthic ecology and is captured under the following headings:

- Marine ornithology comments
- Marine mammal comments
- Benthic ecology (offshore) comments

Marine ornithology comments

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.5	Overall comments We disagree with several elements of the assessment to offshore ornithology within the ES and the HRA. In addition, there are multiple errors within the tables and text, and errors when using values in subsequent stages of the assessment. Many aspects of the assessment are difficult to follow what has been done or where values have come from. Due to these disagreements, errors, and lack of clarity, we do not have confidence in the results, nor are we able to agree with the overall conclusions, either within the EIA or the HRA, particularly with regards to Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro Special Protected Area (SPA).	The Applicant has responded in the table below in relation to the specific points raised by JNCC.	JNCC welcomes the Applicant's comments. JNCC has provided responses to each of these below.
RR-033.6	Aspects of JNCC advice appear to have been misinterpreted, for instance foraging values and agreements and disagreements on breeding Biologically Defined Minimum Population Scales (BDMPS) reference populations	The Applicant acknowledges JNCC's comment. The Applicant has provided a detailed response to specific points raise	JNCC welcomes the Applicant's comments. JNCC has provided responses to each of these below.
RR-033.7	Some aspects of JNCC advice also appear to have been taken on board in some circumstances, then not taken on board in other circumstances, despite being agreed to during pre-application meetings and correspondence. For instance, using a range	The Applicant has presented the range of values for displacement (minimum, most scientifically robust value and maximum) in Volume 2, Chapter 5: Offshore ornithology (APP-057) together with the associated predicted increase in baseline mortality (e.g., table 5.23 for common guillemot). The most scientifically robust value is based on a review of evidence-based displacement and	As advised in the Joint SNCB Interim Displacement Advice Note, we advise that a range of displacement mortality values are taken through to the assessment of population impacts (SNCBs, 2022). We specifically advise that single figures are not used. For most species, the evidence suggests that there is a range of displacement rates occurring at operational wind

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	of displacement rates in the ES, but specific displacement rates being used in the HRA.	mortality rates provided in section 5.7.2 of Volume 2, Chapter 5: Offshore ornithology (APP-057). The assessment is based on the most scientifically robust value, but the range of impacts is also presented within Volume 6, Annex 5.5: Offshore ornithology displacement technical report (APP-092). However, the Applicant acknowledges that the minimum impact value (from the lowest displacement and mortality rates) has been taken forward in the HRA. This occurred in error, and the displacement and mortality impact value used within Volume 2, Chapter 5: Offshore ornithology (APP-057) should have been represented. However, in light of this discrepancy, the Applicant can confirm that no additional site within Step 1 (Section 5 of HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites assessments [APP-032]) would have been taken forward to Step 2 (of (APP032)) if the impact used in the Volume 2, Chapter 5: Offshore ornithology (APP057) was assessed. This will be included in the Errata document submitted at Deadline 1 assessed. This will be included in the Errata document submitted at Deadline 1 If the Applicant had used the impact values from Volume 2, Chapter 5: Offshore ornithology (APP-057), no change to the conclusions presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites assessments (APP-032) would occur.	farms, including the upper end of the SNCB-advised range, and sometimes beyond. Therefore, we regard the upper end of advised displacement rates to be within a potential range of displacement. There is currently no empirical evidence of mortality rates of displaced birds, however the individual-based model SeabORD has been used to investigate the potential ranges of mortality for select species and SPAs. This suggested that mortality rates could occur within the 1-10% range advised by SNBCs, but could also be higher, e.g. up to 14.5% for razorbill (Searle et al., 2020). Therefore, we regard a 10% mortality rate to be within a potential range of mortality. This variation in displacement and mortality rates is why we advise that a range of potential impacts are considered. Whilst we would not base our advice solely on the worst-case likely scenario, we strongly advise that the full range of displacement and mortality rates are not only presented, but also used to determine whether there is a realistic possibility of impact that would need further consideration (i.e. through a Population Viability Analysis). Furthermore, we noted that multiple errors have occurred within the assessments for the same SPA/qualifying feature. We are concerned that these errors are being considered individually, without an overview of how these errors may compound at each stage of an assessment. It is therefore difficult to know whether this would result in impacts greater than 1% baseline mortality for any feature of any SPA

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			and hence whether an SPA feature should have been taken through to Population Viability Analysis (PVA). On the basis of this, we do not currently consider that a sound conclusion of no Adverse Effect on Site Integrity (AEOSI) can be made. In addition, updated outputs should be provided in updated application documentation (ES, HRA and associated documentation/appendices) so that they are available for cumulative and in-combination assessments of future projects.
RR-033.8	We advise that the below disagreements, errors, and unclear aspects are addressed through submission of revised documents related to offshore ornithology. We have identified errors to the best of our ability with the time available, but this may not be an exhaustive list of all errors, and we recommend that a full and thorough check of all tables and in-text values is conducted. JNCC can only comment on sites for which we have jurisdiction (UK marine sites wholly or partly in waters beyond 12nm). We note that NRW and Natural England (NE) have been involved in preapplication discussions and defer to those agencies on their respective sites. We also note that a number of SPAs in Irish and Scottish waters are screened in at Likely Significant Effect (LSE) and recommend consultation with the relevant nature conservation advisers.	The Applicant welcomes JNCC's comments and review. In light of JNCC's specific comments, the Applicant has provided responses to each of these below.	JNCC welcomes the Applicant's comments. JNCC has provided responses to each of these below.
RR-033.9	Volume 2, Chapter 5: Offshore ornithology We disagree with the use of the term 'JNCC	The Applicant acknowledges that species group avoidance rates presented in Ozsanlav-Harris et al. (2023) are	We welcome that the Applicant acknowledges that species group avoidance rates presented in

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	avoidance rates', or similar, to describe the Ozsanlav-Harris report. Although Ozsanlav-Harris et al. (2023) is a JNCC report, it does not in itself constitute our recommended avoidance rates. Referring to it as 'JNCC avoidance rates' incorrectly gives the message that JNCC advise use of every number in the report as it appears, which is not necessarily the case. Our advice on implementation of the results of Ozsanlav-Harris et al. (2023) is included in the joint SNCB guidance note on Collision Risk Modelling (CRM). This uses the rates from Ozsanlav-Harris et al. (2023), but species grouping is an important aspect of this. This information is contained within advice which Natural England provided on 7 July 2022 directly to the Applicant and is also used. Those rates should be regarded as and named joint SNCB avoidance rates, whilst the Ozsanlav-Harris et al. (2023) should be named as Ozsanlav-Harris et al. (2023) rates. This has been iterated to Mona Offshore Wind during the Expert Working Group (EWG) several times, for example during the 6th Ornithology EWG held on 19 October 2023, and within JNCC comments provided on 23 November 2023 on the minutes of the 6th Ornithology EWG. The applicant's response to JNCC comments on the minutes of the 6th Ornithology EWG meeting state "Applicant response: Thank you – we have updated the reference throughout our documents" yet clearly this is	incorrectly referred to as "JNCC avoidance rates" within certain documents, specifically Volume 2, Chapter 5: Offshore ornithology (APP-057) and Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095). Due to this discrepancy being one of semantics, there is no impact on the assessment presented nor on the conclusions drawn. This will be included in the Errata document submitted at Deadline 1.	Ozsanlav-Harris et al. (2023) are incorrectly referred to as "JNCC avoidance rates" within certain documents, specifically Volume 2, Chapter 5: Offshore ornithology (APP-057) and Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095). Although these corrections may seem semantic, JNCC's view is that the texts not only significantly misrepresent JNCC advice, but puts these misrepresentations into the public domain as the JNCC position. This could then be relied upon erroneously by future projects. We therefore strongly advise that the errors should be corrected by submitting full updated and revised versions of the affected chapters.

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	not the case. This comment also applies to the HRA Integrity Matrices document and Volume 6, Annex 5.5: Offshore ornithology apportioning technical report.		
RR-033.10	Table 5.13 and Table 5.14: Seasonal definitions differ across tables and documents, so it is not clear which is being used in each circumstance it is used.	The Applicant considered the biologically defined minimum population scales (BDMPS) bio-season from Furness (2015) where relevant and provided a rationale for any variation from the BDMPS bio-season in the technical reports. Table 5.13 in Volume 2, Chapter 5: Offshore ornithology (APP-057), table 1.3 in Volume 6, Annex 5.1: Offshore Ornithology baseline characterisation technical report (APP091) and table 1.3 in Volume 6, Annex 5.2: Offshore ornithology displacement technical report (APP-092) present the bio-seasons defined in Furness (2015). These bio-seasons have been refined by the Applicant and presented in table 5.14 in Volume 2, Chapter 5: Offshore ornithology (APP-057), table 1.4 in Volume 6, Annex 5.1: Offshore ornithology baseline characterisation technical report (APP091) and in table 1.3 of Volume 6, Annex 5.2: Offshore ornithology displacement technical report (APP-092) The Applicant has noted a discrepancy regarding the non-breeding season for Atlantic puffin in table 5.14 in Volume 2, Chapter 5: Offshore ornithology (APP057). The Atlantic puffin non-breeding season should be September to March (instead of mid-August to March, as stated in the document). This discrepancy does not impact the assessment presented in Volume 2, Chapter 5: Offshore ornithology (APP-057), which is based on the correct seasonal abundance figure presented in table 1.48 in Volume 6, Annex 5.2: Offshore ornithology displacement technical report (APP-092). The BDMPS bio-seasons for	See response to RR-033.17

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		Atlantic puffin presented in table 1.4 in Volume 6, Annex 5.1: Offshore ornithology baseline characterisation technical report (APP-091) have also been checked and are correct. This will be included in the Errata document submitted at Deadline 1. The Applicant has also noted a discrepancy in the post-breeding/autumn migration for Manx shearwater in table 5.14 in Volume 2, Chapter 5: Offshore ornithology (APP-057). Manx shearwater post-breeding/autumn migration should be September to October (instead of September to early October as quoted in table 5.14 in Volume 2, Chapter 5: Offshore ornithology (APP-057)). This discrepancy does not impact the assessment presented in Volume 2, Chapter 5: Offshore ornithology (APP-057), which is based on the correct post-breeding season/autumn migration abundance (182 individuals) presented in table 1.48 in Volume 6, Annex 5.2: Offshore ornithology displacement technical report (APP092). The BDMPS bio-seasons for Man shearwater Atlantic puffin presented in table 1.4 in Volume 6, Annex 5.1: Offshore ornithology baseline characterisation technical report (APP-091) have also been checked and are correct. This will be included in the Errata document submitted at Deadline 1. It is acknowledged that the months considered in each bio-season for presenting mortality estimates of displacement and collision differ for certain species (namely black-legged kittiwake and northern gannet). For the displacement assessment (presented in Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report (APP-092)), mortality estimates in the displacement matrices are generated for each bio-season (rather than produced for each month). For displacement, the mean seasonal peak	

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		abundance is inputted into the displacement matrix to calculate the seasonal mortality estimate. When a species' bio-season spans half a month (e.g., breeding northern gannet - mid March to mid September), it is not possible to split the abundance data, and the whole month was used to calculate the seasonal displacement mortality (e.g., March and September). For collision risk, mortality estimates are calculated for each month in the collision risk modelling. Monthly estimates are subsequently added together and therefore, it is possible to half a monthly collision mortality estimate to calculate the seasonal collision mortality estimate. Monthly estimates of collision mortality are appropriate to account for changing parameters such as operational down time of the wind turbines. For the displacement (table 1.3 of Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report (APP-092)), the following months have been used in each bio-season: Northern gannet bio-seasons: • Pre-breeding: December to February. • Breeding: March to September. • Post breeding: October to November. Black-legged kittiwake bio-seasons: • Pre-breeding: January to March. • Breeding: April to August. • Post-breeding: September to December. For collision, the following months were summed to provide the bio-seasonal	

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		impact: Northern gannet bio-seasons: • Pre-breeding: December, January, February and half of March. • Breeding: half of March, April, May, June, July, August and half of September. • Post breeding: half September, October and November. Black-legged kittiwake bio-seasons: • Pre-breeding: January, February and March and half of April. • Breeding: half of April, May, June, July and half of august. Post-breeding: half of August to December.	
RR-033.11	Sections 5.3.9.10 to 5.3.9.12: We maintain our disagreement over the breeding season BDMPS reference population used for the alone assessment as has previously been advised. In the offshore ornithology EWG07 meeting, we agreed to disagree on EIA breeding reference population "RB - We will need to "agree to disagree" on other species but for gannet and Manx shearwater the lower number should be used", the lower value meaning whichever is lower between the SNCB approach and the applicant's proposed approach. Our agreement log maintains our disagreement with the proposed approach. The Applicant states in Section 5.3.9.12 of Volume 2, Chapter 5: Offshore ornithology that "During the seventh EWG meeting (held 8 December 2023), it was agreed that for the project alone assessment, foraging range	The Applicant notes that JNCC maintains their request that the 'Regional Seas Breeding Season' populations be used for all assessments during the breeding season (even when the 'Regional Seas Breeding Season' population is larger than the Applicant's approach). The Applicant maintains the validity of the 'Foraging Range Breeding Season' populations. As noted in JNCC's comment, JNCC and the Applicant "agreed to disagree" on this item within the seventh EWG meeting and that "the population numbers calculated using the Applicant's approach will be presented for all species, but the numbers presented for gannet and Manx shearwater would be both the Applicant's and the SNCBs regional baseline populations" (Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042). Therefore, the smaller of the populations will always be presented for precaution. The Applicant has assessed the project alone impact against the smaller of the two populations ("Regional Seas Breeding Season" or "Foraging Range Breeding Season").	Our advised approach remains to consider breeding adult birds at colonies within the relevant Biologically Defined Minimum Population Scales (BDMPS) in which the project is located, plus the immatures associated with those colonies. Data should come from the tables in Appendix A of Furness (2015) for both breeding adults and immatures. We continue to agree to disagree on this matter, and find that, although not agreed, it is not material to the assessment in this case.

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	populations could be used, however if the foraging range population is greater than the regional seas populations (BDMPS from Furness, 2015) then impacts would also be assessed against this population." This doesn't quite reflect the discussion or minutes of the EWG07 meeting. Our advised approach remains to consider breeding adult birds at colonies within the relevant BDMPS in which the project is located, plus the immatures associated with those colonies. Data should come from the tables in Appendix A of Furness (2015) for both breeding adults and immatures.	Therefore, the Applicant considers that the most precautionary assessment has been presented within Volume 2, Chapter 5: Offshore ornithology (APP-057). It was not the Applicant's intention to incorrectly quote JNCC from discussions with the EWG within Section 5.3.9.12 of Volume 2, Chapter 5: Offshore ornithology (APP-057), but the Applicant considers what is presented is aligned with what was agreed with the EWG and represents the most precautionary assessment. If the "Regional Seas Breeding Season" population were used for species other than gannet and Manx shearwater, the impacts presented would be less than what is currently presented within Volume 2, Chapter 5: Offshore ornithology (APP-057).	
RR-033.12	Table 5.22: We welcome the seasonal restriction on installation of offshore cables throughout the wintering period for works inside the Liverpool Bay SPA, and that this will be secured through DCO requirement. However, it is unclear whether this includes a buffer around the SPA. Disturbance from vessels have been demonstrated for a number of species, and the zone of influence of this type of disturbance has been shown to extend to 2km for red-throated diver and 2.5km for common scoter. JNCC would recommend that the exclusion of operating within the Liverpool Bay SPA during the period stated is extended to within 2.5km of the SPA boundary.	The Applicant does not consider an additional buffer around the Liverpool Bay SPA boundary necessary. As shown in Figure 1.5 and Figure 1.9 of HRA Stage 2 Information to Support an Appropriate Assessment, Part Three: Special Protection Areas and Ramsar Sites Assessments (APP-033)), the predicted density of common scoter and red-throated diver (the two species most sensitive to vessel movements) is significantly reduced towards the SPA boundary (HiDef, 2023). Therefore, the inclusion of a 2 km or 2.5 km buffer around the SPA boundary would not reduce the magnitude of the impact currently presented (within table 1.47 of HRA Stage 2 Information to Support an Appropriate Assessment, Part Three: Special Protection Areas and Ramsar Sites Assessments [APP-033]), and no AOESI is still predicted to occur with or without the buffer. It should be noted that other recently consented offshore wind farms (e.g. East Anglia One and East Anglia Two), which committed to	Having reviewed the response by the Applicant to RR-033.12, we are of the view that a conclusion of no AEOSI can be reached without the application of a seasonal restriction being applied to a buffer around the SPA in this case.

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		seasonal restrictions to protect qualifying features of SPAs (including red-throated diver), were not required to include a buffer around the SPA.	
RR-033.13	Table 5.25: The incorrect Mean Seasonal Peak abundance appears to have been calculated for Atlantic puffin in the non-breeding season. Comparing Volume 6, Annex 5.1: Offshore Ornithology Baseline Characterisation Technical Report, Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report, and Volume 2, Chapter 5: Offshore ornithology, suggests that the Mean Seasonal Peak was 22 for Atlantic puffin during the non-breeding season. Therefore, the predicted displacement mortalities during both the non-breeding season and annually may be incorrect. This may then have implications for the subsequent assessment, such as the need for apportioning of impacts, and LSE screening. We recommend a thorough review of the Mean Seasonal Peak calculation and the need for any subsequent assessment.	The Applicant acknowledges the discrepancy for Atlantic puffin during the nonbreeding season. The seasonal mean peak should be 22 birds and not 0, as reported in Volume 2, Chapter 5: Offshore ornithology (APP-057). This will be included in the Errata document submitted at Deadline 1. When considering the non-breeding period, the seasonal mean peak of 22 birds would result in no change in the expected mortality of 0 individuals (50% displacement and 1% mortality). The lower impact (30% displacement and 1% mortality) would also see no change (0 to 0 individuals), but the upper impact (70% displacement and 10% mortality) would change from 0 individuals to 2 individuals. The magnitude is still considered to be negligible as the baseline mortality rate will not exceed the 1% increase in baseline mortality. Therefore, this does not alter the conclusion of Volume 2, Chapter 5: Offshore ornithology (APP-057), provided in paragraph 5.7.2.55.	We welcome the Applicant's acknowledgement that the non-breeding Mean Seasonal Peak for Atlantic puffin was calculated incorrectly, and providing the revised value. The Applicant states that the error and subsequent correction does not alter the conclusion of the EIA provided in paragraph 5.7.2.55 of Volume 2, Chapter 5: Offshore ornithology (APP-057) as 1% of baseline mortality has not been surpassed. However, from a HRA perspective, this does need further consideration. The error in Mean Seasonal Peak consequently means that the annual impact is also incorrect and therefore needs amending. Additionally, Atlantic puffin was screened out of the need for apportioning impacts to SPA, "due to the species occurrence in low numbers in the Mona Array Area plus 2 km. The highest expected annual displacement mortality was one bird" (APP-095 section 1.3.1.2)

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			However, this statement is not accurate given the corrected non-breeding Mean Seasonal Peak. Taking the Mean Seasonal Peaks of 15 during the breeding season, 22 during the non-breeding season, and 37 annually, displacement rate of 70%, and mortality rate of 10%, this results in 3 annual mortalities. We therefore advise that Atlantic puffin impacts should be considered within the HRA by first apportioning impacts to SPAs. Note our other comments on using the correct foraging range for Atlantic puffin (RR-033.31), the incorrect assertion by the Applicant that "no SPAs are located between 250.8 and 265.4 km, and therefore, no SPAs have been excluded that should have otherwise been included in the assessments" (RR-033.31), and our disagreement over the assigning of age classes during the nonbreeding season (RR-033.25). Clearly, there are other errors and areas where JNCC advice has not been followed, leading to compounding errors at subsequent stages of assessment. The implications are that SPAs may not have been correctly treated at the LSE screening stage, and SPAs may not have been taken through to the Appropriate Assessment. Therefore, we cannot agree that AEOSI can be ruled out beyond reasonable scientific doubt. It is necessary to correct the assessment of Atlantic puffin from start to end in order to carry out a robust HRA. We strongly recommend that these updates and changes to the impact on Atlantic puffin are updated in revised versions of the affected chapters. We are concerned

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			that providing an update in solely the Errata document risks updated assessment parameters and impact totals not being readily available for use in the in-combination and cumulative assessments of future proposed projects.
RR-033.14	Sections 5.7.2.105 to 5.7.2.106: We note the lack of Population Viability Analysis (PVA) for common guillemot against the reference population relevant to the 1% baseline mortality trigger prompting the need for a PVA within the ES. It is acknowledged that during the breeding season the worst-case scenario of 70% displacement and 10% mortality, an increase in baseline mortality greater than 1% is predicted for common guillemot. It is then stated that PVAs have been carried out on two Sites of Special Scientific Interest (SSSI) breeding colonies. It is not clear why impacts have been assessed against those colony populations, when the reference population against which the predicted displacement mortalities were assessed was the foraging range breeding BDMPS population. Therefore, we would expect to see a PVA carried out for the breeding season alone impact mortalities against the breeding season reference population.	At NRW's request, a specific assessment of the impact on common guillemot from Pen y Gogarth/Great Ormes Head SSSI and Creigiau Rhiwledyn/Little Ormes Head SSSI was undertaken. When considering the Applicants' approach to displacement and mortality rates, baseline mortality for these two sites increased by > 1%. No other specific sites were included within the PVA as the impact from the project alone did not surpass a 1% increase in baseline mortality (as per guidance in Parker et al., 2022). No PVA was undertaken on common guillemot at the regional level during the breeding season as it was only the maximum impact (70% displacement and 10% mortality), which surpassed the 1% threshold. In the Applicant's view, this mortality level is not evidenced to date from other offshore wind farm projects (APEM, 2022). Within Table 5.23 of Volume 2, Chapter 5: Offshore ornithology (APP-057), displacement as a result of the project is predicted to result in the mortality of between 6 to 148 individuals, increasing the baseline mortality by 1.623% when using the "Foraging Range Breeding Season" population which the Applicant maintains is valid. When using the JNCC preferred "Regional Seas Breeding Season" population of 1,145,528 birds, the increase in baseline mortality from 6 to 148 birds would increase the baseline mortality by up to 0.097% (152,355 baseline mortality). Therefore, a PVA would not be required.	We welcome the clarification by the Applicant. For the EIA, we have confidence that annual impacts against the largest BDMPS population do not exceed 1% baseline mortality, and further investigation (e.g. through PVA) would not be required in this case, at the worst-case scenario of displacement and mortality rates for each species.

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		The Applicant does not consider a PVA required for impacts that are not founded in the evidence (APEM, 2022) and a more realistic impact has been focused on within the assessment. It would not be proportionate to present a PVA for a maximum impact. The assessments presented as part of Volume 2, Chapter 5: Offshore ornithology (APP-057) provides the stakeholders with the most scientifically robust impact assessment.	
RR-033.15	Section 5.7.5: We disagree with the use and presentation of only mean or central collision estimates throughout. The Confidence Intervals associated with collision estimates should also be provided and taken through the assessment to assess the full range of potential effects. This comment also applies to the HRA Integrity Matrices document, Section 1.2.5, and the HRA Stage 1 Screening Report document, Section 1.4.6.	The number of expected collisions across months, including upper and lower confidence intervals, are displayed in Figures 1.2 to 1.7 and given within Tables 1.6 to 1.13 of Volume 6, Annex 5.3: Offshore ornithology collision risk modelling technical report (APP-093). The assessment presented in Volume 2, Chapter 5: Offshore ornithology (APP057), the HRA Stage 1 Screening Report (APP-034) and the HRA Stage 2 Information to Support an Appropriate Assessment, Part Three: Special Protection Areas and Ramsar Sites Assessments (APP-033) is based on the mean collision estimate. The use of the mean collision estimate is a realistic and proportionate approach and is in line with multiple other application assessments (e.g. Awel y Môr windfarm project and Hornsea Three offshore windfarm).	We welcome the response by the Applicant. However, the purpose of the stochastic Collision Risk Model (sCRM) is to incorporate uncertainty and variability in input parameters into the predicted collision number. Taking only a central estimate from the outputs of an sCRM does not therefore look at the realistic worst-case scenario and its implications for baseline mortality and the need for further assessment (e.g. through PVA). Therefore, we cannot currently agree that AEOSI can be ruled out beyond reasonable scientific doubt.
RR-033.16	Section 5.7.5.13: We note the lack of PVA for breeding season collision impacts to great black-backed gull. Predicted collisions	The Applicant maintains the validity of using the species-specific avoidance rates for the great black-backed gull Ozsanlav-Harris et al., (2023) due to the sufficient sample	We thank the Applicant for the clarification provided. We note that the annual rather than seasonal impact has been examined, and that the implications of

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	are above 1% baseline mortality during the breeding season, yet a PVA have not been carried out. Therefore, we would expect to see a PVA carried out for the breeding season alone impact mortalities against the breeding season reference population	size of the species-specific avoidance rates and the fact that the great black-backed gull is biologically different from the other gull species included within the "large gull" species group rate. When using the species-specific avoidance rate and the Applicant's smaller breeding population ("Foraging Range Breeding Season" population), the predicted impact is a <1% increase in baseline mortality. Within Section 1.5.2 of Volume 6, Annex 5.3: Offshore Ornithology Collision Risk Modelling Technical Report (APP-093), justification is provided for focusing on the species-specific avoidance rates and explaining how the sample size justifies their use. Within Table 5.39 of Volume 2, Chapter 5: Offshore ornithology (APP-057), the additional mortality of 1.64 collisions (predicted using the species-group avoidance rate of 0.9939) increases the baseline mortality by 1.155% when using the "Foraging Range Breeding Season" population which the Applicant maintains is valid. When using the JNCC preferred "Regional Seas Breeding Season" population of 44,753 birds, the increase in baseline mortality of 1.64 birds would increase the baseline mortality by 0.039% (4,252 baseline mortality). Therefore, a PVA would not be required.	predicted mortalities from both species-specific and grouped large gull avoidance rates have been considered in the Population Viability Analyses presented and hence we are content with this approach.
RR-033.17	Tables 5.38; 5.39; 5.42; and 5.44: For some species it would appear, though it is unclear, that impacts for a particular month which is within two BDMPS seasons have been split between the two seasons. Clarity is required if this is the case, and when this has been undertaken, and whether this is an appropriate use of the survey data, for instance when within a month the survey	The Applicant confirms that the following months have been used for each bioseason when calculating the impacts from collisions in Volume 2, Chapter 5: Offshore ornithology (APP-057). The predicted collisions estimates are presented per month and therefore the impact per bio-season is the summed total of the following months: Black-legged kittiwake • Pre-breeding: January, February and March and half of	The vast majority of aerial surveys were undertaken during the first half of each month (see table 1.6 of APP-091). Therefore we question the appropriateness of assigning half of the monthly abundance to the opposite end of the month. We continue to advise, as consistent with our pre-application advice, that full breeding seasons and full months are used and therefore monthly density estimates are not split for input into the Collision Risk Modelling (CRM).

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	was carried out. For example, if data was calculated at one end of a month, is it appropriate to halve this value and associate one half with the other end of the month? Tables 5.38; 5.39; 5.42; and 5.44: If it is the case that impacts for a particular month which is within two seasons have been split between the two seasons, it is unclear whether this approach is appropriate when put into context of seasonal reference populations (e.g. Furness (2015)). Do the seasonal reference populations used also split populations in the one month between seasons?	April. • Breeding: half of April, May, June, July and half of August. • Post-breeding: half of August, September, October, November and December. Gannet • Pre-breeding: December, January, February, April and half of March. • Breeding: half of March, April, May, June, July, August and half of September. • Post breeding: half of September, October and November. Great back-backed gull • Breeding: Half of March, April, May, June, July and August. • Non-breeding: September, October, November, December, January, February and half of March. European herring gull • Breeding: March, April, May, June. July and August • Non-breeding: September, October, November, December, January and February. Lesser black-backed gull • Pre-breeding: March and April. • Breeding: April, May, June, July and August. • Post breeding: August, September and October. • Non-breeding: November, December, January and February. It is acknowledged that the months considered in each bio-season are different to that of the displacement	Furness (2015) defines the full breeding season for Northern gannet as March to September. We advise this definition is used, and adjusting the nonbreeding season definitions in Furness (2015) accordingly to ensure no months are considered in two seasons. E.g.: • Full breeding season - March to September • Post-breeding season - October to November • Pre-breeding season - December to February Similarly for black-legged kittiwake: • Full breeding season - March to August • Post-breeding season - September to December • Pre-breeding season - January to February And for Manx shearwater: • Full breeding season - April to August. • Post-breeding season - September to October • Pre-breeding season – March Great black-backed gull: • Full breeding season - late March to August • Non-breeding season - September to February Lesser black-backed gull: • Full breeding season - April to August. • Post-breeding season - September to October • Winter season - November to February

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		assessment presented in Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report (APP-092). Paragraph 1.3.3.2 provides justification for assigning a month that fell within two bio-seasons into a particular season with the breeding season given priority. For the displacement, the following months have been used in each bio-season: Northern gannet Pre-breeding: December to February Breeding: March to September Post-breeding: October to November Black-legged kittiwake Pre-breeding: January to March Breeding: April to August Post-breeding: September to December For the displacement assessment, mortality estimates in the displacement matrices are generated for each bio-season (rather than produced for each month). For displacement, the mean seasonal peak abundance is inputted into the displacement matrix to calculate the seasonal mortality estimate. When a species' bio-season spans half a month (e.g., breeding northern gannet - mid March to mid September), it is not possible to split the abundance data, and the whole month was used (March and September) to calculate the seasonal displacement mortality.	• Pre-breeding season - March. The Applicant notes that the post-breeding season for Manx shearwater was erroneously stated as being September to early October, and should have been September to October, but that this does not impact the Mean Seasonal Peak or subsequent assessment. However, using Table 1.46 of APP-091, we calculate the peak from year 1 as 25 individuals and for year 2 as 1 individual, giving a mean of 13 individuals for the post-breeding season, not 182 individuals. The seasonal mean peak of 182 individuals appears to have been calculated assuming the post-breeding season is August to October, when it should instead have been calculated using September to October.
RR-033.18	Section 5.9: We maintain our disagreement over the approach to cumulative (EIA) and in-combination assessments (HRA), and specifically the inclusion of projects with	Whilst it is the Applicant's view that data gaps associated with historic offshore wind projects are an aspect of cumulative impact assessments that would be better addressed at the strategic level rather than the project	We note the Applicant's response to our concerns over the approach to both the Cumulative (EIA) and In-combination (HRA) assessment. Whilst no progress has been made at the time of submission of

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	unquantified levels of impact (either because modelling techniques have changed, or their impacts were not quantitatively assessed), and this disagreement has been raised in Preliminary Environmental Information Report (PEIR) responses and during the EWGs. In October 2023, the SNCBs supplied bespoke advice to the Mona, Morgan generation and Morecambe generation projects (Proposed methodology for 'gap-filling' the Irish Sea R4 cumulative & in-combination assessments, circulated by Natural England), providing a suggested approach to filling in gaps in data on impacts from relevant projects for cumulative/in-combination assessment. The Applicant has not followed this approach and has presented a qualitative approach for the projects with no data. We do not consider that the qualitative assessments presented by the Applicant are sufficient and do not consider that conclusions can be drawn without reasonable scientific doubt, regarding the accumulating scale of impact to some species. We therefore reiterate that our advice for a pragmatic method to address the lack of impact assessments for a number of historical Offshore Wind Farms (OWFs) in the region remains as detailed in the original SNCB advice.	level, updates were made to the cumulative impact assessment in response to JNCC's (as well as Natural England's and NRW's) Section 42 advice with respect to historic offshore wind projects impacts for application. These updates also captured additional advice provided by Natural England on 23 October 2023. The cumulative and in-combination assessments presented in Volume 2, Chapter 5: Offshore ornithology (APP-057) and HRA Stage 2 ISAA for SPAs and Ramsar sites (APP-033), respectively, consider the quantitative impact of historic offshore wind projects where it has been possible to derive estimates from project-specific documentation. In the absence of quantitative assessment for historical projects, qualitative assessment has been presented where the information was available. The Applicant remains confident that the approach and cumulative / in-combination assessments presented in Volume 2, Chapter 5: Offshore ornithology (APP-057) and HRA Stage 2 ISAA for SPAs and Ramsar sites (APP-033).	these Responses to comments on Relevant Representations, we wish to make the Examining Authority aware that there are on-going discussions with the Applicant on this matter, and we will provide any updated comments we have in due course.
RR-033.19	Sections 5.9.2; 5.9.3; and 5.9.4: In the cumulative assessment, the abundance estimates at Erebus offshore wind farm are	The Applicant acknowledges that the correct abundance estimate for Atlantic puffin within Project Erebus should be 1,416 individuals during the breeding season (not 15	We welcome clarity from the Applicant regarding the Mean Seasonal Peak (MSP) abundance estimates for Atlantic puffin and Northern gannet from Erebus.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	incorrect for several species. This was also the case in the Section 42 PEIR, and JNCC responded to these errors in our Section 42 PEIR response. However, the same errors remain. The abundance estimates to use should be those within Table 5-1 for common guillemot and Table 5-3 for Atlantic puffin in the Project Erebus: Supplementary Environmental Information Addendum Report (2022). The abundance estimates for gannet should be those within Table 23 of the Erebus: Offshore Ornithology 11.4 Technical Appendix – Displacement Analysis (2021). The abundance estimates for kittiwake should be those within Table 18 to 20 of the Erebus: Offshore Ornithology 11.4 Technical Appendix – Displacement Analysis (2021). Sections 5.9.3 and 5.9.4: In the cumulative assessment, the collision estimates for gannet at Erebus are incorrect. The collision estimates to use should be those within Table 5-31 of the Project Erebus: Supplementary Environmental Information Addendum Report (2022).	individuals as presented in table 5.61 and 5.93 of Volume 2, Chapter 5: Offshore ornithology (APP-057)) and 160 individuals during the nonbreeding season (not zero individuals as presented in Table 5.61 and 5.93 in Volume 2, Chapter 5: Offshore ornithology (APP-057)) for Erebus according to Table 5.3 of the Project Erebus: Supplementary Environmental Information Addendum Report (Blue Gem Wind, 2022). Furthermore, the Applicant acknowledges a discrepancy for northern gannet during the non-breeding season. The correct figure for northern gannet should be 100 individuals during the pre-breeding season, as stated in Table 23 Erebus: Offshore Ornithology 11.4 Technical Appendix – Displacement Analysis (HiDef, 2021) (not zero as presented in Table 5.65 and Table 5.98 of Volume 2, Chapter 5: Offshore ornithology (APP057)). Peak abundances of other species (i.e., black-legged kittiwake, common guillemot, razorbill, Manx shearwater) have been checked for Project Erebus and represent the updated figures presented in the Project Erebus: Supplementary Environmental Information Addendum Report (Blue Gem Wind, 2022). This will be included in the Errata document submitted at Deadline 1. These discrepancies do not alter the conclusion of the assessment in Volume 2, Chapter 5: Offshore ornithology (APP-057), the HRA Stage 1 Screening Report (APP-034) and the HRA Stage 2 Information to Support an Appropriate Assessment, Part Three: Special Protection Areas and Ramsar Sites Assessments (APP-033).	We note that an error remains regarding common guillemot in the non-breeding season and annually. The non-breeding season MSP should be 28338 not 28388, and therefore the annual MSP should be 35339 not 35389. Some of these errors may be small, and others relatively large (difference of 1561 for Atlantic puffin). Regardless of the size of these errors, the workings should be provided to determine whether or not the conclusions are altered in Volume 2, Chapter 5: Offshore ornithology (APP-057), the HRA Stage 1 Screening Report (APP-034) and the HRA Stage 2 Information to Support an Appropriate Assessment, Part Three: Special Protection Areas and Ramsar Sites Assessments (APP-033). This should be done by providing revised versions of affected chapters. This would allow the Applicant to demonstrate that these errors do not alter the conclusions of relevant documents, and provide this information for use in the in-combination and cumulative assessments of future proposed projects. We note our original comment regarding the collision estimates for Northern gannet at Erebus being different that those in Table 5.128 (APP-057). It would appear, given the Applicant's response to RR-033.21, that collision estimates from other projects have been recalculated to account for current avoidance rates. Hence the discrepancy between what is in the Erebus documents and the documents for Mona OWF. To alleviate this misunderstanding, we strongly recommend that it is described in the relevant cumulative and in-combination sections of the EIA and HRA that this recalculation has been undertaken, and how it has been done. This should be done by

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
			providing revised versions of affected chapters. This would add further clarity to the current assessment and also prevent potential misunderstanding by future projects when looking to carry out in-combination and cumulative assessments.
RR-033.20	Sections 5.9.2; 5.9.3; and 5.9.4: Impacts in the cumulative tables often do not add up to the totals at the foot of the tables, and have multiple other errors in them, such as figures apparently attributed to the wrong wind farms, seasonal impacts not adding up to annual impacts.	The cumulative displacement abundances (e.g., Table 5.86 of Volume 2, Chapter 5: Offshore ornithology (APP-057) do not include the collision mortalities. As such, the last row of the table (i.e., Cumulative total (all projects) does not include the collision mortalities from tidal projects. As an example, in Table 5.86 of Volume 2, Chapter 5: Offshore ornithology (APP057), the total annual abundance (minus the Mona Offshore Wind Project) of 15,059 individuals and the cumulative total (all projects) of 17,578 individuals does not include the collision impacts from the two tidal projects (Holyhead Deep – Tidal Energy and West Anglesey Demonstration Zone tidal site). The collision impacts are considered when the increase in baseline mortality is presented. For example, in paragraph 5.9.2.72 of Volume 2, Chapter 5: Offshore ornithology (APP-057), the additional 24 collision mortalities associated with the tidal projects are specifically mentioned. Following JNCC advice, the Applicant can confirm within table 5.75 of Volume 2, Chapter 5: Offshore ornithology (APP-057) incorrectly presents 177 individuals during the post-breeding season of Manx shearwater within Awel y Môr. The correct number is 214 individuals (Table 24 of RWE, 2022). The annual total presented in table 5.75, is correct (417 individuals). The total CEA post-breeding impact of 1,414 individuals is incorrect and should be 1,451. This increases the predicted mortality (table 5.77 of	We will provide comment on the changes presented in the Errata document. We strongly recommend that the changes should be provided in revised versions of affected chapters. We are concerned that only providing an Errata document would not provide confidence that errors did not, in fact, make a material difference to the results of the assessment.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		Volume 2, Chapter 5: Offshore ornithology [APP057]) from 4 (range 3 to 57) to 7 (range 4 to 102). This is still of negligible impact and the conclusions remain valid. Similarly, table 5.81 of Volume 2, Chapter 5: Offshore ornithology (APP-057) incorrectly presents 238 common guillemot within Twinhub during the breeding season; this should be 183 individuals (table 6.4 of Wave Hub, 2018). However, the annual 'Total (minus the Mona Offshore Wind Project)' of 87,577 is correct, and therefore, there is no change to the assessment and the conclusions remain valid. Table 5.98 of Volume 2, Chapter 5: Offshore ornithology (APP-057) incorrectly states that the annual 'Cumulative total (all projects)' is 6,690 northern gannet, however this should be 7,119 birds. This would amend the mortality (table 5.102 of Volume 2, Chapter 5: Offshore ornithology [APP-057]) from 47 (range 40 to 535 individuals) to 50 (range 43 to 570 individuals), which is still of negligible impact and the conclusions remain valid. Table 5.104 of Volume 2, Chapter 5: Offshore ornithology (APP-057) also incorrectly states that the annual 'Cumulative total (all projects)' is 26,604 blacklegged kittiwake. However, this should be 25,897 birds. This would amend the mortality (table 5.108 of Volume 2, Chapter 5: Offshore ornithology [APP-057]) from 133 (range 80 to 1,862 individuals) to 129 (range 78 to 1,813 individuals), which is still of negligible impact and the conclusions remain valid. This will be included in the Errata document submitted at Deadline 1 In regard to some sites having the data incorrectly assigned	

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		to another site, the Applicant confirms that there are some discrepancies within the tables regarding which row an impact was placed (e.g. impacts for Burbo Bank Extension being attributed to Burbo Bank). This will be included in the Errata document submitted at Deadline 1. However, this does not change the overall impact presented for the cumulative and in-combination assessment. The Applicant maintains the outcomes of the assessments do not change.	
RR-033.21	Section 5.9.3: For the ES cumulative assessment, it appears that collision estimates from other offshore wind farm projects have been adjusted to account for different avoidance rates. However, it is not stated that this has been done, nor how this has been done. Therefore, we cannot replicate the findings, or determine whether the method or results are correct.	The predicted collision figures in the cumulative collision assessment (see section 5.9.3 of Volume 2, Chapter 5: Offshore ornithology [APP-057]) for the other projects were corrected for the current advised avoidance rates. For the assessment, it is crucial to base results on the most recent available evidence, such as the study by Ozsanlav-Harris et al. (2023), rather than older offshore wind farm applications that used outdated avoidance rates. This approach ensures a "common currency" between Environmental Impact Assessments (EIAs), making conclusions robust and reflective of the true likely effect. This method has been applied in previous offshore wind farm applications (e.g. Awel y Môr) and is considered robust. Older wind farm applications used avoidance rates as low as 0.980, whereas updated evidence now indicates rates up to 0.9991 for the same species (Ozsanlav-Harris et al. (2023). Some applications have used rates of 0.989, which still differ significantly from the updated rates used in more recent cumulative effect assessments. Consequently, combining results based on different avoidance rates is not considered a robust approach. The calculation to standardise impacts by using a consistent avoidance rate is straightforward due to how the Band collision model works. The avoidance rate is applied	We agree with the principle of updating past collision estimates to take account of revised avoidance rates. We strongly recommend that the fact that this has been done, and how it has been done, is described in the relevant cumulative and in-combination sections of the EIA and HRA. We strongly recommend that this is done by providing revised versions of affected chapters. This would prevent potential misunderstanding by future projects when looking to carry out in-combination and cumulative assessments.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		at the end of the CRM calculation, allowing for an easy backward calculation to occur to make the avoidance rate consistent between projects. Collision risk models used by other developments have employed the same modelling parameters as those used for the Mona Offshore Wind Project (e.g., flight speeds, flight height). The calculation used for collision impacts from each offshore wind farm was calculated as follows: (Total impact using original avoidance rate/(1-(Original avoidance rate/100)))*(1-(new updated avoidance rate/100)) For example, the original collision impact of 51.5 gannet from Walney Extension was derived using an avoidance rate of 98.9. Using the avoidance rate of 99.28, the collision impact is 33.71, calculated as follows: (51.5/(1-(98.9/100)))*(1-(99.28/100))=33.7091	
RR-033.22	Volume 6, Annex 5.5: Offshore ornithology apportioning technical report Table 1.4: The last column in Table 1.4 should be titled "Proportion of adult birds (%)" not "Proportion of immature birds (%)".	The heading of Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095) Table 1.4 should read "Proportion of adult birds (%)". This will be included in the Errata document submitted at Deadline 1.	We thank the Applicant for this clarification.
RR-033.23	Section 1.3.3: No information is provided on the number of adults and immatures identified from Digital Aerial Surveys (DAS). Without an understanding of the number of birds identified to age classes, as a proportion of the total number of birds (per species), it is hard to know whether a representative sample was identified, and	The number of identified adults and immatures for northern gannet, black-legged kittiwake, herring gull, great black-backed gull and lesser black-backed gull from the site-specific Digital Aerial Surveys (DAS) is provided in table 1.4 of Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095). Also included is the number of birds for which age could not be identified. The last column of table 1.4 Volume 6, Annex 5.5: Offshore ornithology	Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095) Table 1.4 of provides the following information: • the number of birds which were not identified to age classes from DAS • the percentage of adult birds identified from DAS

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	whether this was appropriate to use when applying a ratio of adults and immatures to unidentified birds.	apportioning technical report (APP-095) presents the percentage of adult birds (albeit this is incorrectly labelled as 'proportion of immature birds') – see response to row ID RR033.22.	• the number of adults and immatures which have been assigned ages calculated from the first two points However, what is not provided is how many birds were identified as adult and how many were identified as immatures from DAS. 95% of birds identified were identified as adults, but it is unclear what proportion of the total population was identified to age class through DAS. If a very small number of birds were identified as adults, there is a question as to the sufficiency of this data to be confident in assigning age-classes to unidentified individuals. We therefore request the Applicant provides: • Total number of birds (ages identified and unidentified from DAS) • Number of birds identified as adult from DAS • Number of birds identified as immature from DAS
RR-033.24	Section 1.3.3: We disagree with the calculation of kittiwake age classes. This approach was not raised by the applicant during EWG meetings or subsequently, and therefore JNCC has not agreed to this approach. The Hornsea Offshore Wind Farm Project Two approach to apportioning to age class referred to in Section 1.3.3.5 relies on reliable counts of first year birds, i.e. in the case of kittiwake first summer birds which by August of that year have largely transitioned to adult plumage and therefore indistinguishable from adults. Therefore, the identification rate of first summer kittiwake is questionable and calculations derived from	The Applicant has provided the scientific rationale for this approach in paragraph 1.3.3.4 in Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095). The Applicant stated in paragraph 1.3.3.4 "Coulson (2011) presents evidence that shows that immature kittiwakes, particularly those in their second and third years, frequent natal waters, with older immatures increasingly populating breeding colonies. Using site-specific survey data to calculate age class proportions for the breeding season will lead to an underestimation of second- and third-year immatures. Utilising the current approach (i.e., using proportions of adult and immature birds from DAS to age-class birds) will therefore lead to an overestimation of	The method used by the Applicant relies on reliable counts of first year birds. However, in the case of kittiwake first summer birds have largely transitioned to adult plumage by August of that year and are indistinguishable from mature adults. Therefore, the identification rate of first summer kittiwake is questionable and calculations derived from this e.g. applying survival rates to define an age class structure, is also questionable. We also have concerns that very low number of juvenile kittiwakes in the Mona site-specific surveys were aged. Additionally, the juvenile survival rates (0-1 year) given in Horswill & Robinson (2015) are very

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	this, for example, applying survival rates to define an age class structure is also questionable. It is noticeable that more recent projects such as Hornsea Offshore Wind Farm Project Four and the East Anglia projects have not used this approach. Further, we advise that stable age structures are not derived using population viability analysis, and the method outlined in this report is effectively a manual version of this, which we do not recommend. We therefore disagree with the percentage of kittiwake adults and immatures in the breeding season in Table 1.6.	adults, as only one-year-old birds are distinguishable during surveys, with all other age groups categorised as adults". The proportion of birds recorded as adult plumage during the site-specific surveys undertaken in the breeding season is 95.23% (table 1.4 of Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095)). If 95.23% of birds in the breeding season (as suggested by NRW) had been used instead of 87.68%, the Applicant can confirm that there would be no material change to the assessment within the HRA Stage 1 Screening Report (APP-034) nor HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (APP-033). Had 95.23% been used one additional site would have been screened into Stage 2 of the HRA. Wicklow Head SPA would change from 0.0 birds to 0.1 birds when considering the species group avoidance rate (99.3%). This SPA would have been presented within Step 1 (section 1.5 of APP-033). For completeness, an example table for Wicklow Head SPA is presented below, where 95.23% of the breeding season population has been assigned to adults. The Applicant considers that the predicted impacts presented on SPA populations are not impacted by the two different proportions of adult birds and all impacts presented are correctly identified and assessed. It should be noted that NRW accepted the use of the stable age structure from Furness (2015) for the Awel y Môr Offshore Wind Farm application (RWE, 2022). The Applicant considers that using the site-specific data (as requested by JNCC) at the Mona Offshore Wind Project to	old and from a single colony in the North Sea (taken from Coulson & White (1959) and hence have a poor data quality score (score of 1). These issues mean there is uncertainty around the appropriateness of the approach for use at the Mona site which is located in the Irish Sea. Therefore, we reiterate our advice from the S42 Consultation (Table 1.1, APP-095), our response to EWG 03 (section D.4.4, APP-042), and as the Applicant themselves confirmed would be done in EWG 07 (Item 5, section D.8.1, APP-042), that proportions of adults and immatures are based on age-class information from site-specific surveys, and in the absence of this, a precautionary approach is taken assuming all adult-type birds are adults. Given that kittiwake age classes were identified from Digital Aerial Surveys, it is unclear why the Applicant would not directly use them. It is stated that NRW accepted the use of the stable age structure from Furness (2015) for the Awel y Môr Offshore Wind Farm application (RWE, 2022). However, NRW (A) did not agree with that approach, and in their Relevant Representations for Awel y Môr Offshore Wind Farm NRW (A) stated: "NRW (A) notes that the Furness (2015) stable age structure assessment method has been applied. Whilst NRW (A) would have preferred that stable age structure is calculated from the local surveys, or, by adopting a precautionary approach by counting all birds as adults, we do not consider that this impacts the final assessments."

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		inform age structure does not impact the conclusions of the final assessment for black-legged kittiwake and all assessments and their conclusions remain valid.	
RR-033.25	Section 1.3.3: We disagree with the methods of apportioning impacts between adults and immatures during the nonbreeding season. We advise that the same approach is taken as for the breeding season, as has been advised previously during EWG meetings and correspondence, by using the proportions of adults and immatures identified by surveys, and otherwise assuming all adult-type birds are adults.	The calculation of apportioning values for non-breeding seasons has followed the approach used previously in the application for Development Consent for multiple offshore wind farms (e.g., East Anglia THREE Ltd., 2015, Outer Dowsing, 2024) and is advised for use by Natural England (Parker et al., 2022). For apportionment, the contribution of adult birds from an individual designated site, as estimated by Furness (2015), to the relevant BDMPS population for each species/season combination is divided by the total BDMPS population. This follows advice received by NRW during the EWG03 (section D.4.1 Meeting minutes of Technical Engagement Plan Appendices Part 1 (A to E) (APP-042).	We thank the Applicant for their response, but are unclear whether their response addresses the point raised in this Relevant Representation or was written in response to RR-033.26 (and vice versa, i.e. that the Applicant's response to RR-033.26 is in fact a response to RR-033.25?). The approach advised by Natural England suggested in the Applicant's response to RR-033.25 is in regard to the method of apportioning impacts to SPAs during the non-breeding season. This addresses and satisfies RR-033.26, but does not address nor satisfy RR-033.25. We therefore repeat and clarify our original comment RR-033.25. We disagree with the method used to assign age classes in the non-breeding season. It is stated in section 1.3.3.8 of Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095) that "In the non-breeding season, age-class was based on Furness (2015)". This goes directly against SNCB advice given previously, which is outlined in Table 1.1 of the same document. JNCC advice is that species that can be identified to age classes from digital aerial surveys should be done so. If it is not possible to assign age classes from digital aerial surveys, then all birds should be assumed to be adults. This applies to both the breeding and the non-breeding season.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
			We do not recommend stable age structures based on Furness (2015) because they are considered unlikely to be representative of the actual proportions of adults present within specific areas at different times of year and could lead to over, or more importantly, underestimation of impacts. The Applicant provides no rationale for their departure from SNCB advice. This difference in approach can make a substantial difference to the number of mortalities within the HRA. In the extreme scenario, great black-backed gull is given an adult proportion of 44% in the non-breeding, based on Furness (2015) (Table 1.6 of APP-095). This is in comparison to the SNCB approach od assuming 100% of birds are adults during the non-breeding season. The implication of this is that impacts to great black-backed gull in the non-breeding season are 44% smaller using the Applicant's approach compared to using the SNCB-advised approach. We again stress the importance of providing the SNCB-advised impact assessment alongside the Applicant's approach.
RR-033.26	Section 1.3.5: We disagree with the method of apportioning impacts to SPAs during the non-breeding season. We recommend that to calculate apportion impacts to colonies in the non-breeding season, this should be based on the proportion of the SPA adult birds, across the BDMPS total of birds of all ages, for each relevant non-breeding BDMPS season, as has been advised	The Applicant can confirm that the impacts apportioned to each SPA in the HRA Stage 1 Screening Report [APP-034] and HRA Stage 2 Information to Support an Appropriate Assessment, Part Three: Special Protection Areas and Ramsar Sites Assessments (APP-033) are for adult birds only in both the breeding and nonbreeding period.	The Applicant's response does not appear to answer our original query. Or is perhaps this response is written in the wrong row and should instead be an answer RR-033.25, and vice versa the Applicant's response to RR-033.25 is in fact a response to RR-033.26? However, the reasoning given in the Applicant's response to RR-033.25 sufficiently answers our query

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	previously during EWG meetings and correspondence.		RR-033.26. We thank the Applicant for providing this clarification. We agree with the method of apportioning impacts to SPAs during the non-breeding season.
RR-033.27	Table 1.7: It is not clear whether sabbatical birds have been removed from the assessment or not. There is suggestion that they haven't, yet the heading of Table 1.7 suggests that sabbatical rates are considered within the HRA.	Paragraph 1.3.4.5 of Volume 6, Annex 5.5: Offshore apportioning technical report (APP-095) specifically states "The apportioning assessment carried out for the Mona Offshore Wind Project does not exclude sabbatical birds at the request of the Offshore Ornithology EWG [Expert Working Group] meeting three (held 30/11/2023)." Table 1.7 of Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095) is shown for information purposes only. The paragraph above table 1.7 (paragraph 1.3.4.5) states "…The apportioning assessment carried out for the Mona Offshore Wind Project does not exclude sabbatical birds at the request of the Offshore Ornithology EWG meeting three (held 30/11/2023)."	We thank the Applicant for the clarification that the assessment does not exclude sabbatical birds. We suggest that either the heading of table 1.7 of APP-095 is amended, or the table is removed, to prevent confusion.
RR-033.28	Volume 6, Annex 5.6: Offshore ornithology population viability analysis technical report Table 1.4: The BDMPS and baseline mortality values for great black-backed gull appear to be associated with the wrong seasons. For the annual assessment the BDMPS should be 44,753 with a baseline mortality of 4,252. For the non-breeding season, the BDMPS population should be 17,742 with a baseline mortality of 1,685. The PVA logs in Appendix A2.1 and A2.2 appear to have associated the correct reference populations per season, therefore the PVA itself appear to have used the	The Applicant recognises that in Table 1.4 of Volume 6, Annex 5.6: Offshore ornithology population viability analysis technical report (APP-096), the seasons associated with great black-backed gull in the UK Southwest and English Channel have the wrong BDMPS and baseline mortalities assigned to them. However, as shown in Appendix A2.1 and A2.2 (Volume 6, Annex 5.6: Offshore ornithology population viability analysis technical report (APP-096)) the correct values were used in calculating PVA	We thank the Applicant for this clarification. We suggest that this error is corrected in a revised version of APP-096.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	correct values, but the values in Table 1.4 are incorrect		
RR-033.29	Table 1.12 and Table 1.13: The extremely high predicted growth rates associated with great black-backed gull are at odds with the general trend in Global and European (where non-breeding great black-backed gull in UK waters are likely to originate) and UK breeding populations being that of decline (albeit with range expansion). For example, Burnell et al. (2023) highlights the overall declines in breeding great black-backed gull in Britain and the UK since the previous national census (Seabird 2000) of -55% and -52%, respectively. England has suffered a smaller decline (-3%), with the breeding population of the Isles of Scilly increasing slightly (14%). Given the overall picture of decline, we question whether increases in population of ~12,000% predicted by the PVA would ever be realised in reality, and hence the reliability of the PVA predictions. We recommend a sense check of the PVA input and outputs before having reliance on the outputs.	The Applicant acknowledges the concerns with the PVA outputs for great black-backed gull which have been raised by JNCC. The provision of the best available estimates of productivity from JNCC and survival rates advocated by SNCBs (from Horswill and Robinson (2015)) have been used for the PVA and this results in significant increases in the population size (many thousands of percentage increases). As discussed within Volume 6, Annex 5.6: Offshore ornithology population viability analysis technical report (APP-096), the Counterfactual Growth rate (CGR) metric is more applicable and insightful due to how the models have been run. Models were run as density independent (in line with current Natural England guidance (Parker et al., 2022)), and therefore the predicted population size at the end of the PVA is likely to be inaccurate as some density dependence will occur in nature. As outlined in Volume 6, Annex 5.6: Offshore ornithology population viability analysis technical report (APP-096), and Volume 2, Chapter 5: Offshore ornithology (APP057) the focus of the PVA outputs should be on the CGR and not population size due to its inherent and accepted issues. The Applicant acknowledges that the population has decreased slightly within England (Burnell et al., 2023) but has used the best available data in accordance with current guidance and best practice available at the time of writing.	We thank the Applicant for the clarification and note the explanation as to the applicability of examining the Counterfactual Growth rate.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.30	HRA Stage 1 Screening Report There are multiple discrepancies between the main text of the HRA Stage 1 Screening Report and the appendix tables of the same document. All values (text and tables) should be double-checked and updated where necessary. The HRA Stage 1 Screening Report provides very little information to cross reference which values from other documents have been used, and through what calculation, in order to generate results. Therefore, it is nearly impossible to follow what values have or have not been used. We strongly recommend that the HRA Stage 1 Screening Report contains a clear audit trail of what values and parameters have been used, where they have been used, and how they have been applied. Without this, we cannot confidently replicate the results, and hence we cannot have confidence in the results.	The Applicant welcomes JNCC's comments on the HRA Stage 1 Screening Report (APP-034) and has provided responses to the specific comments below.	JNCC welcomes the Applicant's comments. JNCC has provided responses to each of these below.
RR-033.31	Table 1.2 and Table 1.7: We disagree with the application of foraging ranges for Atlantic puffin. Although breeding season apportioning has not been carried out, our view is that it should be when using the correct Mean Season Peak value (see comment on Atlantic puffin MSP error), therefore it is important to use the correct foraging range. It is not accurate to state, in Tables 1.2 and 1.7 of the HRA Stage 1	Whilst the Applicant has used the foraging range for Atlantic puffin of 265.4 km that JNCC requested (following the fifth EWG meeting) in Volume 6, Annex 5.5: Offshore Ornithology apportioning technical report (APP-095) and Volume 2, Chapter 5: Offshore Ornithology (APP-057), the Applicant acknowledges a misinterpretation of JNCC S42 response and the incorrect foraging range of 250.8 km has been presented in table 1.2 and table 1.7 of HRA Stage 1 Screening Report (APP-034). This will be included in the Errata document submitted at Deadline 1.	We disagree that no SPAs have been excluded that should have otherwise been included in the assessments. There are several SPAs within 265.4 km of the Mona Array, including Skomer, Skokholm and Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA, Lambay Island SPA, Rathlin Island SPA, and Saltee Islands SPA. Therefore, these SPAs should have been considered in the HRA. See RR-033.13 for comment on another error for Atlantic puffin in the Mean Seasonal Peak calculation,

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	Screening Report, that "JNCC requested (via their S42 response) that all SPAs to the north of the Mona Offshore Wind Project within 265.4km be considered for Atlantic puffin.". In JNCC correspondence to the Applicant on 28 June 2023, we advised "We confirm that the foraging range to use for Atlantic puffin is 265.4km (MM+SD). Woodward et al. (2019) state (page 138) that "As was the case for common guillemot and razorbill, foraging distances travelled by Atlantic puffin from Fair Isle are higher than those at most other sites (RSPB dataset), although they are not as exceptional when compared to other sites as those of the other two auk species" and "Observations of birds carrying fish have been made at distances of 250km from the Faeroe Islands (Harris & Wanless 2011), offering further speculative evidence that Atlantic puffins forage at longer distances than the other auk species. Hence the distances observed from Fair Isle and Hermaness should not necessarily be considered exceptional until more data and data from additional colonies have been collected, particularly data from colonies where local prey availability may be greater". Therefore, we advise using the generic mean max +1SD value as stated in Table 5.". Therefore, we advised that the foraging range within Table 5 of Woodward et al. (2019) (137.1 ± 128.3 = 265.4km) should be applied to all SPAs. There is no exception to	However, no SPAs are located between 250.8 and 265.4 km, and therefore, no SPAs have been excluded that should have otherwise been included in the assessments.	which was also used as a reason for not considering Atlantic puffin SPAs. Multiple errors need to be corrected to prevent compounding errors through the impact assessment. We thank the Applicant for acknowledging misinterpretation of JNCC advice in regard of foraging range for Atlantic puffin. It is stated that this error will be corrected in the Errata document submitted at Deadline 1. However, this correction does not appear to have been included in the Errata document (REP1-044). Although this correction may seem semantic, JNCC's view is that the texts not only significantly misrepresent JNCC advice, but puts these misrepresentations into the public domain as the JNCC position. This could then be relied upon erroneously by future projects. We therefore strongly advise that the errors should be corrected by submitting full updated and revised versions of the affected chapters.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	this value for Atlantic puffin. This value should be used throughout.		
RR-033.32	Table 1.2 and Table 1.7: We disagree with the application of foraging ranges for common guillemot and razorbill. It is not accurate to say, in Tables 1.2 and 1.7 of the HRA Stage 1 Screening Report, that "JNCC requested via their S42 response all SPAs to the north of the Mona Offshore Wind Project within 153.7km be considered for common guillemot" and "JNCC requested via their S42 response all SPAs to the north of the Mona Offshore Wind Project within 164.6km be considered for razorbill". We do recommend that these values are applied in certain circumstances. However, these circumstances are not "all SPAs north of Mona", the circumstances are for all Northern Isle SPAs. Therefore, it is unclear whether the correct SPAs and other sites have been screened in with regard to Atlantic puffin, common guillemot, and razorbill. It is therefore also unclear whether the calculations in Volume 6, Annex 5.5: Offshore Ornithology apportioning technical report are correct, and subsequently, any of the values relevant to these species and SPAs in the HRA.	The Applicant acknowledges the incorrect interpretation of advice received from JNCC regarding the foraging ranges for common guillemot and razorbill presented within table 1.7 of the HRA Stage 1 Screening Report (APP-034). Table 1.7 stated that the foraging range of common guillemot from SPAs to the north of the Mona Offshore Wind Project is 153.7 km, the correct value is 95.2 km. Table 1.7 also stated that the foraging range of razorbill from SPAs to the north of the Mona Offshore Wind Project is 164.6 km, the correct value is 122.2 km. This will be included in the Errata document submitted at Deadline 1. The Applicant can confirm that no SPAs with common guillemot nor razorbill as a qualifying feature are located between 95.2 and 153.7 km for common guillemot nor between 122.2 to 164.6 km for razorbill. Therefore, no additional sites are required to be included within the assessment, nor were any sites brought into the assessments incorrectly. Therefore, the Applicant is confident in the conclusions presented. The correct foraging ranges were used for both species in Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (APP-095) and Volume 2, Chapter 5: Offshore Ornithology (APP-057).	We thank the Applicant for acknowledging misinterpretation of JNCC advice in regard of foraging range for common guillemot and razorbill. Although this correction may seem semantic, JNCC's view is that the texts not only significantly misrepresent JNCC advice, but puts these misrepresentations into the public domain as the JNCC position. This could then be relied upon erroneously by future projects. We therefore strongly advise that the errors should be corrected by submitting full updated and revised versions of the affected chapters.
RR-033.33	Section 1.4.6.17: We disagree with the use of only specific displacement rates and mortality ranges in the HRA displacement assessment. We advise that the full range of	The Applicant has presented the range values for displacement estimates (based on displacement and mortality rates including minimum, most scientifically robust value and maximum) in Volume 2, Chapter 5: Offshore	We thank the Applicant for clarifying the error in solely using the minimum value (from the lowest displacement and mortality rates) in the HRA. We disagree with the Applicant's proposition to use

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	displacement and mortality ranges previously advised are used and presented within the HRA to assess the full range of potential effects. It is odd that the full range of displacement rates and mortality rates have been presented and assessed within the ES, yet specific rates have been used within the HRA. Whilst we would not base our advice solely on the worst-case likely scenario, it is important to look at the range likely to scenarios in order to determine whether there is a realistic possibility of impact that would need further consideration (i.e. through Appropriate Assessment). It is important to follow the stepwise process of the Habitats Regulations Assessment process in order to systematically consider the impacts of a Plan or Project to an appropriate level.	ornithology (APP-057) together with associated increase in baseline mortality (e.g., Table 5.23 for common guillemot). The most scientifically robust value is based on a review of evidence-based displacement and mortality rates provided in section 5.7.2 of the Volume 2, Chapter 5: Offshore ornithology (APP-057). The Applicant acknowledges that the minimum value (from the lowest displacement and mortality rates) has been taken forward in the HRA. This occurred in error and the value used within the EIA should have been represented. This will be included in the Errata document submitted at Deadline 1. The Applicant can confirm that no additional site within Step 1 (Section 5 of HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments [APP-032]) would have been taken forward to Step 2 (of [APP-032]) if the value used in the EIA was presented. All impacts to all species would stay as an <0.05% increase in baseline mortality apart from Isle of Scilly SPA which is already included within Step 2 (of [APP032]). Therefore, the Applicant consider that impacts presented are robust and no amendments are required to the submitted documents.	solely the Applicant's preferred displacement and mortality rates. We do not agree that single values of displacement and mortality should be used for analysis of population impacts. As advised in the Joint SNCB Interim Displacement Advice Note, we advise that a range of displacement mortality values are taken through to the assessment of population impacts (SNCBs, 2022). We specifically advise that single figures are not used. For most species, the evidence suggests that there is a range of displacement rates occurring at operational wind farms, including the upper end of the SNCB-advised range, and sometimes beyond. For example, with regard to the evidence of displacement rates and distance, Peschko et al. (2023) observed a reduction of 91% of common guillemot within offshore wind farms plus a 1km buffer, and 76% within offshore wind farms plus a 10km buffer, in autumn. In winter, they found a reduction of 67% within offshore wind farms plus a 1km buffer, and 50% within offshore wind farms plus a 10km buffer. Guillemot density in autumn was significantly affected up to a mean distance of 19.5km (range 18–21km) with a reduction of 79% within this area. Guillemot density in winter was significantly affected up to a mean distance of 16.5km (range 15–18km) with a reduction of 51% within this area. In addition, Pesckho et al. (2020a) found a reduction in guillemot densities during the breeding season inside offshore wind farms of 63% (75% when the blades were turning). Further, a study by Pesckho et al. (2020b) found a 63% reduction in guillemot density in the wind farm plus a 3km buffer, and a 49% reduction in the wind farm plus a 9km buffer during spring. A 44% reduction was found in the wind farm plus a 3km

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
			buffer during the breeding season. Therefore, we regard a 70% displacement rate to be within a potential range of displacement. This variation in displacement rates is why we advise that a range of potential impacts are considered. There is currently no empirical evidence of mortality rates of displaced birds, however the individual-based model SeabORD has been used to investigate the potential ranges of mortality for select species and SPAs. This suggested that mortality rates could occur within the 1-10% range advised by SNBCs, but could also be higher, e.g. up to 14.5% for razorbill (Searle et al., 2020). Therefore, we regard a 10% mortality rate to be within a potential range of mortality. Whilst we would not base our advice solely on the worst-case likely scenario, we strongly advise that the full range of displacement and mortality rates are not only presented, but also used to determine whether there is a realistic possibility of impact that would need further consideration, i.e. where the 1% threshold of baseline mortality is surpassed, we recommend further investigation is carried out via e.g. a Population Viability Analysis. A single value of mortality from displacement does not give a full picture of the range of potential impacts, and indicates false precision in this estimate. Given the multiple issues with regard to the HRA, such as assigning age classes to individuals we do not have confidence in the LSE screening or

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
			Appropriate Assessment for species assessed for displacement. The Applicant has not provided SPA-apportioned displacement matrices within the documentation. The displacement and mortality rates used can make a large difference to the magnitude of impact (see comparative examples of displacement mortalities for black-legged kittiwake in Table 1 and 2 of JNCC's Written Representation REP1-066). It is therefore difficult to know whether any combination of displacement and mortality rates would result in impacts greater than 1% baseline mortality for any feature of any SPA. Therefore, it is unclear whether an SPA feature should have been taken through to PVA. On the basis of this, we do not currently consider that a sound conclusion of no AEOSI can be made. We strongly advise that the application documents are updated with this information
RR-033.34	Section 1.4.6.30: While we have accepted the approach to LSE screening and Appropriate Assessment in this case, it should be noted that the LSE test is a course filter, as per our advice given during pre-application meetings, our response to the Section 42 PEIR, and as summarised in Table 1.2 of the HRA Stage 1 Screening report. The screening presented in this application has gone beyond an assessment of whether an impact pathway has the potential to compromise the ability of the site to meet its conservation objectives, and has additionally examined the magnitude of	The Applicant welcomes JNCC's agreement that the approach to the screening of LSE was appropriate for the Mona Offshore Wind Project.	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	impact, as apportioned to each relevant MPA, and whether this would represent an LSE (e.g. through examining whether mortality would be increased by >1%). We are of the view that this approach may not be appropriate for projects where larger magnitude impacts are expected		
RR-033.35	Table 1.68: Throughout the HRA, the qualifying features of Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA appear to be incorrect. We recommend the features and assemblages are carefully checked against the SPA designation information (found here: https://jncc.gov.uk/ourwork/skomer-skokholm-and-the-seas-off-pembrokeshirempa), and the details within the HRA updated. We have advised on errors in the description of features of Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA during the Section 42 PEIR response, yet the errors remain. This comment also applies to the Volume 2, Chapter 5: Offshore ornithology, Table 5.10.	The Applicant acknowledges that within Table 5.10 of Volume 2, Chapter 5: Offshore ornithology (APP-057) incorrectly assigns Atlantic puffin to part of the seabird assemblage when it is a full qualifying feature. This will be included in the Errata document submitted at Deadline 1. This does not impact the assessment of the species within the EIA and the species is fully considered. Within Table 1.10 of the HRA Stage 1 Screening Report (APP-034) Atlantic puffin is incorrectly included as an assemblage feature, however it is a full qualifying feature. This discrepancy does not impact the assessment of Atlantic puffin throughout the HRA. Within Table 1.9 of the HRA Stage 1 Screening Report (APP-034) European storm petrel is excluded incorrectly as a breeding species within its foraging range; however the species is included within Table 1.11 of the HRA Stage 1 Screening Report (APP-034) and is therefore included within the assessment. This will be included in the Errata document submitted at Deadline 1. Within Table 1.10 of the HRA Stage 1 Screening Report (APP-034) no difference was presented between a species included within an assemblage and a named qualifying feature. This is in line with the reference source (Furness,	We thank the Applicant for acknowledging the errors with regard to the qualifying features of Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA. We disagree with the Applicant's conclusion that "all potentially impacted species are assessed; therefore, the conclusions remain valid". Particularly in the case of Atlantic puffin, see JNCC responses to RR-033.13 for details of errors in Mean Seasonal Peak calculations, RR-033.25 for details of our disagreement with assigning age classes using stable age structures from Furness (20150), RR-033.31 for details of errors in determining SPAs within foraging range, and RR-033.33 for details of our disagreement with the use of displacement and mortality rates. These compounding errors and departures from SNCB advice mean that we do not agree that all potentially impacted species have been assessed, nor do we currently consider that a sound conclusion of no AEOSI can be made.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		2015). These discrepancies are repeated in Table 1.53 and Table 1.68, with some species not correctly identified as a named qualifying feature or part of the named assemblage. However, all the species are accounted for and included in the assessment of impacts. The Applicant is content that the discrepancies in assigning an assemblage species or qualifying feature to the individual species designated at Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA do not contribute to an error in impact assessment. All potentially impacted species are assessed; therefore, the conclusions remain valid.	
RR-033.36	Section 1.4.6.49: As far as we are able to calculate, we generate different values of apportioned adult impacts for at least great black-backed gull and kittiwake compared to those in the HRA Stage 1 Screening Report appendix tables. Due to the unclear method and values used, it is not known whether there are errors in the calculation, or a different method has been applied, or different values are being used, to those we assume are used. We recommend a thorough check of the values and calculations used to generate the results in the HRA Stage 1 Screening Report, and that the values and method of apportioning impacts are fully presented. Without these, we cannot confidently replicate the results,	The Applicant acknowledges that a fully worked example for a species and site of all apportioning (age classes and apportionment of impacts) will add clarity and confidence in the predicted levels of impact. A worked example for great black-backed gull from the Isles of Scilly SPA is presented below, with references to where this information is provided within the application documents. The Isles of Scilly SPA is designated for the great black-backed gull and is located within the "UK Western" BDMPS as presented in Furness (2015). Mona Offshore Wind Project is also located within the UK Western BDMPS. Great black-backed gulls from the Isle of Scilly SPA comprise 28.85 % of the adult birds within the BDMPS during the non-breeding period (1,622 birds out of 5,622; Furness, 2015).	We follow the logic of the worked example provided to generate HRA values for great black-backed gull from the Isles of Scilly SPA. We suggest that the same calculations are provided for each SPA and feature within the relevant HRA documents, such as within Appendix A.2 of the HRA Stage 1 Screening Report (APP-034). Additional columns should include: • Seasonal abundance for displacement assessments • Displacement and mortality rates used • Collision estimates • SPA apportioning values; and • Age-class apportioning values The Applicant may wish to provide separate tables for their preferred approach and for SNCB advised

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	and hence we cannot have confidence in the results.	The age classes used for apportioning are presented in Table 1.6 of the Apportioning Technical Report (APP-095). The impacts present in the HRA are for adult birds only. For great black-backed gull this is estimated as 44 % adult in the non-breeding season, as taken from Furness (2015). The number of great black-backed gull collisions during the non-breeding season is presented in Table 5.39 of Volume 2, Chapter 5: Offshore ornithology (APP057). This is 3.18 individuals (all age classes) when using 99.39 % avoidance or 0.48 when using 99.91 % avoidance. A monthly breakdown of collisions is presented in Table 1.7 of the Collision Risk Modelling Technical Report (APP-094). Table A.12 of the HRA Stage 1 Screening Report (APP-034), which presents the apportioned impact, presents that between 0.1 (99.91 % avoidance) and 0.4 (99.39 % avoidance) great black-backed gull collisions can be apportioned to the Isles of Scilly SPA. The total impact on great black-backed gull from the Isles of Scilly SPA was calculated as follows. Collisions during the non-breeding season x proportion of adult birds x proportion from the Isle of Scilly SPA 3.18 x 0.44 x 0.2885 = 0.40 or 0.48 x 0.44 x 0.2885 = 0.06 This is also presented within point C) below paragraph 1.4.6.72 of the HRA Stage 1 Screening Report (APP-034). As the impact is ≥ 0.05 birds, the site is screened into the HRA Stage 2 Information to Support an Appropriate	approach. Note our response to RR-033.25 for details of our disagreement with assigning age classes using stable age structure from Furness (2015).

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		Assessment Part Three: Special Protection Areas and Ramsar sites assessments (APP-033).	
RR-033.37	HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments We disagree with several elements of the assessment to offshore ornithology within the HRA. In addition, there are multiple errors within the tables and text, and errors when using values in subsequent stages of the assessment. Many aspects of the assessment are difficult to follow what has been done or where values have come from. Due to these disagreements, errors, and lack of clarity, we do not have confidence in the results, nor are we able to agree with the overall conclusions of the HRA, particularly with regards to Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	The Applicant has clarified the specific points raised by JNCC with respect to the HRA in the preceding responses.	JNCC welcomes the Applicant's comments. JNCC has provided responses to each of these below.
RR-033.38	Section 1.4.6.3: The threshold of using 0.05% baseline mortality from the project alone to screen whether impacts should be considered in-combination was not raised by the applicant during EWG meetings or subsequently, and therefore JNCC has not agreed to this approach. We recommend that the Applicant be clear on what this percent increase in baseline mortality would be in absolute mortality terms. We are not	The Applicant has taken an approach where if the predicted impact from the project alone equates to less than 0.05 % of baseline mortality of a designated site, then the Applicant deems this as "non-material" and within natural population fluctuations. Therefore, this site and species are screened out of the in-combination assessment within Step 2 of the HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites assessments (APP-033).	We thank the Applicant for the clarification. Whilst this approach may be appropriate for this project, where predicted impacts from the project alone are likely very small, JNCC advises that it may not be appropriate in other situations, including for designated sites where in-combination impacts are already close to or at levels that are already considered to be of an adverse effect; or designated

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	aware that similar thresholds have been applied in other cases to screen in or out from in-combination assessment, and note that the East Anglia Two OWF HRA does not refer to such a threshold when considering whether a project should be considered in-combination with other Plans and Projects (https://infrastructure.planninginspectorate.gov.uk/wpcontent/ipc/uploads/projects/EN010078/EN010078-010066- EA2-HabitatsRegulationsAssessment.pdf). We request that the Applicant provide justification for the appropriateness of this approach.	A similar threshold approach has been applied in Plan-level HRAs and other offshore wind applications (GreenVolt, Awel y Môr and Hornsea Four; however, none of these applications specifically defined an increase in baseline mortality threshold enabling a consistent approach to be taken. The Applicant has used a specific threshold set as <0.05 % as this would equate to a negligible impact at EIA scale. It must be noted that the approach to the screening out of in-combination assessments was deemed appropriate by NRW as part of their Relevant Representation for the Mona Offshore Wind Project (RR-011).	sites considered to be in unfavourable condition and/or that have conservation objectives relating to restoration. It also does not mean that impacts from the Mona project should be excluded from in-combination totals for future project assessments.
RR-033.39	Section 1.6.3.20: Note that predicted works (cable repair and reburial) would not need to occur concurrently in order to have the predicted impacts (just within the same nonbreeding season). However, we welcome that the assessment is based on the total predicted habitat loss, irrespective of when it may occur.	The Applicant welcomes JNCC's agreement with the Applicant's approach.	We note the Applicant's response.
RR-033.40	Section 1.6.3.44: We disagree with the interpretation that birds on migration are not specifically part of the Liverpool Bay/Bae Lerpwl SPA citation and therefore are not considered part of the non-breeding season assemblage. The SPA citation refers to non-breeding birds. There are no breeding red-throated divers in England or Wales, and therefore any birds present within the SPA will be nonbreeding birds (even when	The Applicant acknowledges that the non-breeding season assemblage feature of the Liverpool Bay/Bae Lerpwl SPA has been misinterpreted in paragraph 1.6.3.44 of HRA Stage 2 Information to Support an Appropriate Assessment Part 3: Special Protection Areas and Ramsar Sites Assessments (APP-033) and should include non-breeding red-throated diver. This will be included in the Errata document submitted at Deadline 1. However, all red-throated divers present within the cable corridor have been assessed within HRA Stage 2 Information to Support an	We thank the Applicant for the clarification. It is stated that this error will be corrected in the Errata document submitted at Deadline 1. However, this correction does not appear to have been included in the Errata document (REP1-044). We welcome the mitigation measures proposed to avoid impacts on the non-breeding red-throated diver and common scoter features of the Liverpool Bay/Bae

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	present during the defined breeding season cited). We therefore do not agree that they can be discounted as not part of the protected population. We do note however that as per the SPA Conservation Advice, April and September represent months where smaller numbers of this species can be expected, and significant Impact and Adverse Effect on Integrity (AEOI) is less likely than in 'core' months of the non-breeding period.	Appropriate Assessment Part 3: Special Protection Areas and Ramsar Sites Assessments (APP-033). Therefore, the statement in paragraph 1.6.3.44 does not influence how the species has been presented and assessed during the summer months (see paragraph 1.6.3.46 and table 1.51 of HRA Stage 2 Information to Support an Appropriate Assessment Part 3: Special Protection Areas and Ramsar Sites Assessments (APP-033)). The Applicant is content that despite this discrepancy, the assessment and conclusion of no adverse effect on site integrity presented in HRA Stage 2 Information to Support an Appropriate Assessment Part 3: Special Protection Areas and Ramsar Sites Assessments (APP-033) remains valid.	Lerpwl SPA. As noted in our Written Representations (REP1-066), in our view, the measures as set out in 'Measures to minimise disturbance to marine mammals and rafting birds from transiting vessels' (APP-203) are currently unclear and not sufficiently secured within the draft DCO. However, with further clarification and ensuring that these measures are secured in the DCO, JNCC is of the view that a conclusion of no AEOSI could possibly be reached.

Marine mammal comments

Reference	Relevant Representation Comment	Applicant's response	JNCC response
RR-033.42	**Overall comments:** JNCC previously provided comment on the Mona Offshore Wind Project Preliminary Environmental Information Report (OIA Reference OIA-09444, dated 1 June 2023). Our current review and subsequent comments have focussed on outstanding issues with particular attention given to the information to support HRA and proposed mitigation measures. We maintain our advice that unexploded ordnance (UXO) clearance is not included as a licensed activity in the DCO/marine licence (particularly high order clearance) due to the lack of information available and the over precaution that must be incorporated into the impact assessment at this stage. For example, Section 1.6.2.1 of the draft Sound Management Strategy states the likely maximum size of UXO to be encountered is 130kg Net Explosive Quantity (NEQ), however, it also states the size of device could range between 25kg and 907kg. Without further information on what size of devices will need to be cleared, and confirmation of what clearance method will be used, the impact assessment (and associated mitigation plans) must consider	UXO clearance has been included in the Application and assessed within Volume 2, Chapter 4: Marine mammals (APP-056) and the HRA Stage 2 Information to Support an Appropriate Assessment (ISAA) E1.2 Part Two: Special Areas of Conservation (SACs) Assessments (APP-032). The assessment is based on the maximum potential UXO size (907 kg) and identified a potentially significant effect. However, the assessment presented in Volume 2, Chapter 4: Marine mammals (APP-056) highlights that the likelihood of a high order clearance is low, and a staged mitigation hierarchy has been proposed (see below). The final Marine Mammal Mitigation Protocol (MMMP) and Underwater Sound Management Strategy (UWSMS), will be produced, post consent and will rely on a more accurate understanding of the number and types of UXO requiring clearance and the type of clearance approach that will be appropriate to employ. The assessment has considered the maximum adverse scenario, which in this case is high order clearance, but the Applicant highlights its commitment to the mitigation hierarchy with respect to UXO clearance which is centred on a staged approach (see Outline MMMP (APP-207)), in line with the Joint Position Statement, that follows: • Avoid UXO. • Clear UXO with low order techniques.	JNCC continues to maintain our advice that UXO clearance is not included as a licenced activity in the DCO/dML and is instead applied for in a separate marine licence. Further information is provided in our Written Reps explaining our position.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
	the worst-case scenario, i.e. all clearances will involve high order detonation of a 907kg device. This is contrary with the Government et al. Joint Position Statement (for which an update will be published this month), which states low noise methods of clearance should always be prioritised with high order clearance only to be used in exceptional circumstances	• Clear UXO with high order techniques. As demonstrated, the Applicant has committed to prioritising low noise clearance methods and using high order clearance only in exceptional circumstances. The Outline UWSMS (APP-202) is based upon the Maximum Design Scenario (MDS) at this current stage and will be refined post consent following the site-investigation surveys, which will identify the exact UXO to be cleared, and mitigation will be tailored accordingly. Furthermore, Condition 21 of the Draft DCO (C1 Draft Development Consent Order F03) requires a method statement for UXO clearance to be submitted to, and approved by, NRW before any removal or detonation of UXO can take place.	
RR-033.43	While noise abatement for piling (described as a secondary mitigation measure) is now referred to in the impact assessment and mitigation plans, in practice it is considered last in the mitigation hierarchy i.e. after measures built into the project design and the use of marine mammal observers/acoustic deterrents. We are aware that Defra will be publishing a noise policy paper soon (announced at the Marine Management Organisation, MMO, workshop, 13 March 2024) which will include the expectation from the MMO that all offshore wind pile driving activity in English waters to demonstrate that they have utilised best endeavours to deliver noise reductions	The Applicant notes the pending noise policy paper from Defra, announced at the Marine Management Organisation (MMO) workshop, 13 March 2024, with our marine mammal specialists in attendance. The Applicant will consider the noise policy paper when published. The Outline UWSMS (APP-202) details the approach to deliver sound reduction through the use of primary and/or secondary sound mitigation methods (which considers sound abatement systems) and will be finalised post consent in the final UWSMS. Therefore, sound abatement technologies are already considered, in accordance with the mitigation hierarchy, which focuses on a staged	We note noise abatement is considered as part of the Outline Underwater Sound Mitigation Strategy (UWSMS), and the Applicant's commitment to consider future policies that may be published. We, however, maintain our view that noise abatement could be given more priority in the UWSMS and MMMP. Further discussion supporting this is provided in our Written Reps.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
	through the use of primary and/or secondary noise mitigation methods in the first instance from January 2025. While the array area for this project no longer overlaps with English waters, we strongly recommend that noise abatement and/or the use of alternative hammers are considered as a key part of the noise mitigation plan, with the assumption that it will be used appose to it may/could be. Such an approach will also support future European Protected Species (EPS) licence applications if required (use of alternatives), which are usually applied for post-consent.	approach (see response to RR-033.42). Specific measures will be agreed post-consent as part of the final UWSMS. The UWSMS is a comprehensive approach that has not previously been adopted by other recently consented offshore wind farm projects. This demonstrates the Applicant's commitment to utilising best endeavours to reduce the noise impacts of the Mona Offshore Wind Project. Even though the Mona Array Area sits in Welsh waters, noise abatement systems (NAS), alternative hammers and other measures are considered as part of the Outline UWSMS (APP-202), and will be finalised post consent with relevant stakeholders, including JNCC. The Defra noise policy paper will also be considered for relevant future European Protected Species (EPS) licence applications.	
RR-033.44	**General comments** We highlight the following for information: JNCC (in collaboration with the other SNCBs) will be reviewing the current Effective Deterrent Ranges (EDRs) this coming year and identify new ones for activities not currently included (e.g. Acoustic Deterrent Devices, ADDs). Once available, these should be used in future assessments.	The Applicant notes JNCC's comment.	We note the Applicant's response.
RR-033.45	JNCC will be publishing new mitigation guidance specifically for when clearing UXO	The Applicant notes JNCC's response and will review the new UXO clearance mitigation guidance, when available.	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
	within the next month. We advise that the most recent guidance is used to inform future UXO clearance licence application and subsequent marine mammal mitigation plans.		
RR-033.46	An addendum to the SNCB mitigation guidance for piling will be published in the next two months, to bring the 2010 guidance up to date and reflect the preference for noise abatement to be used to mitigate impacts from noise.	The Applicant notes JNCC's response and will review the addendum to the SNCB mitigation guidance for piling when it is available.	We note the Applicant's response.
RR-033.47	**HRA Stage 1 Screening report** Table 1.6: This document states that the distance to the North Anglesey Marine SAC from the Mona Array Area is 22.58km, whereas in other documents it is stated as 23.67km. Please clarify and ensure consistency between documents.	The Applicant thanks JNCC for highlighting this consistency error, the correct distance is 23.67 km, however this does not change the assessment and the conclusions of the screening report still stand.	JNCC agree this correction does not change the overall conclusions.
RR-033.48	Section 1.4.5, Table 1.125 and Paragraph 1.6.1.5: JNCC agree with the conclusion of potential LSE on the North Anglesey Marine SAC due to underwater sound from piling, and UXO clearance. We advise LSE is unlikely for the other harbour porpoise sites due to their distance from the proposed project.	The Applicant welcomes this feedback and confirmation of agreement with the conclusion of potential LSE on the North Anglesey Marine SAC due to underwater sound from piling, and UXO clearance.	We note the Applicant's response.
RR-033.49	**HRA Stage 2 Information to support an Appropriate Assessment** We defer to NRW-A regarding SACs in territorial waters e.g. for seals and	The Applicant notes JNCC's response.	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
	bottlenose dolphins. We agree with the use of EDRs to assess disturbance within the harbour porpoise SACs and assess overlap in the context of published temporal-spatial thresholds.		
RR-033.50	Table 1.78: We question why the Bristol Channel Approaches SAC has been included here, whilst the West Wales Marine SAC has not? Bristol Channel Approaches SAC lies 274.8km from the Array Area, whereas West Wales Marine SAC is considerably closer (95.4km).	The Applicant notes JNCC's response and thanks you for highlighting that this site was missed in error from Table 1.78. However, West Wales Marine SAC has been considered in line with the iterative approach in the Stage 2 ISAA Part Two: Special Areas of Conservation (SACs) Assessments (APP-032) for Annex II marine mammal feature harbour porpoise, for the Construction/decommissioning (e.g. piling assessed in paragraph 1.7.3.89 for the Mona Offshore Wind Project alone, and 1.7.4.89 in combination with other plans/projects) and Operations and maintenance phases. The Stage 2 ISAA Part Two: Special Areas of Conservation (SACs) Assessments (APP-032) concluded no adverse effect on the integrity of the site from the Mona Offshore Wind Project alone or in-combination with other plans and projects.	Thank you for clarification on this point.
RR-033.51	Table 1.84: We reiterate our advice that UXO clearance is not included in the DCO as a licensed activity. We do, however, agree with the hierarchy provided here with regard to clearance options, i.e. that low order will be considered before high order, as required in the Government et al. UXO position statement.	The Applicant has updated the draft DCO (C1 Draft Development Consent Order F03) to include reference to UXO clearance in the deemed marine licence list of licensable activities. See also the Applicants response above to UXO clearance on the mitigation hierarchy (RR-033.42).	See response to RR-033.42

Reference	Relevant Representation Comment	Applicant's response	JNCC response
RR-033.52	Table 1.100: This presumes the worst-case scenario that all UXOs would require high order clearance and applies the maximum 26km EDR. Submitting a separate application for UXO clearance once it is known precisely what is required would enable this assessment to be more realistic and not be over precautionary.	The Applicant notes JNCC's response. See also the Applicants response above regarding UXO clearance (RR-033.42). Final UXO mitigation will be discussed in detail and agreed with stakeholders post-consent during the development of the Final MMMP and Final UWSMS and once pre-construction surveys have been conducted. These documents will be based upon the realistic UXO clearance scenario, but at this stage the most precautionary approach has been taken and the worst-case scenario used in the assessment.	See response to RR-033.42
RR-033.53	**Outline underwater sound management strategy** Overall, we agree in principle with the plan to develop an underwater noise strategy, and that it should identify all potential noise sources associated with the project with further detail provided in associated mitigation plans. We also agree the draft strategy could be finalised post-consent (following refinement of the project design and further surveys being undertaken), provided we are confident the information to be provided within the final strategy will demonstrate potential impacts to marine mammals from noisy activities can be adequately mitigated/managed. The information provided in the current draft is, however, incomplete. We note the following in the draft document provided:	The Applicant welcomes JNCC's response on the Outline UWSMS (APP-202) and agreement that it can be finalised post-consent, following refined project design and site-investigation surveys.	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
RR-033.54	Generally, the proposed layout is acceptable however we recommend that Section 1.6 (construction activities) includes some information on how the design envelope has changed, rather than only discussing it in Section 1.7.	The Applicant notes JNCC's response and highlights the UWSMS is a live document that can be updated following such feedback. The Applicant will add further detail on the changes of the project design envelope (PDE) to the requested Section 1.6 in the final UWSMS issued post-consent.	We note the Applicant's response.
RR-033.55	Noise abatement for piling is considered a secondary mitigation measure however the implication is that in practice, it will be considered last in the mitigation hierarchy. The use of noise abatement should be given more serious consideration, and we encourage investigating the feasibility of using hammer types that will result in lower levels of noise such as the Menck system mentioned in paragraph 1.8.2.11.	The Applicant notes JNCC's response, and highlights section 4.9 in Volume 2, Chapter 4: Marine mammals (APP-056), which details 'measures adopted as part of the project', which includes measures as part of the project design (referred to as primary mitigation in IEMA (2016)) and measures required to meet legislative requirements or standard practice (referred to as tertiary mitigation in IEMA (2016)). Where potential significant effects have been identified even with the use of primary/tertiary measures, further mitigation measures are considered, which are referred to as secondary mitigation in IEMA (2016). Therefore, where significant effects are possible from the Mona Offshore Wind Project, further (termed 'secondary') mitigation measures are considered, which includes consideration of noise abatement technologies. The Final UWSMS will look at the range of NAS technologies available and will likely include hammer types that result in lower sound levels, if possible and necessary.	See response to RR-033.43
RR-033.56	We reiterate our advice that UXO clearance is not included as a licenced activity in the DCO/marine licence (particularly high order clearance) due to the lack of information	The Applicant welcomes JNCC's agreement that UXO clearance is included in the UWSMS to represent a holistic view of activities that may generate elevated underwater sound. See also the Applicant's responses above to UXO	See response to RR-033.42

Reference	Relevant Representation Comment	Applicant's response	JNCC response
	available and the over precaution that must be incorporated into the impact assessment at this stage. For example, Section 1.6.2.1 of the strategy states the likely maximum size of UXO to be encountered is 130kg NEQ, however, it also states the size of device could range between 25kg and 907kg. Without further information on what size of devices will actually need to be cleared, and confirmation of what clearance method will be used, this strategy (and associated mitigation plans) must consider the worst-case scenario presented within the ES (907kg) and describe mitigation measures that will reduce those predicted impacts. We do, however, agree to UXO clearance being included in this document at this stage as the strategy represents a holistic view of all noisy activities. In line with the Governments Joint Position Statement (for which an update will be published this month), low noise methods of clearance should always be prioritised with high order clearance only to be used in exceptional circumstances.	clearance (RR-033.42). The Applicant notes the pending update to the Joint Position Statement and will consider the guidelines when published.	

Reference	Relevant Representation Comment	Applicant's response	JNCC response
RR-033.57	JNCC do not recommend the use of scare charges prior to UXO clearance as a form of soft start (Section 1.5.4.3).	The Applicant notes the advice on scare charges and highlights that this was discussed in the Marine Mammal EWG07 (see Technical Engagement Plan (APP-041) and minutes of the EWG meetings in Appendix C of the Technical Engagement Plan Appendices Part 1 (A to E) (APP-042)). The Applicant requested guidance for alternatives during this meeting, and JNCC and Natural England advised that they provide advice for projects on a case-by-case basis (such as an extended pre-search and proven ADDs). Therefore, the Applicant will seek project-specific recommendations in developing the final MMMP and UWSMS in consultation with relevant stakeholders, including JNCC.	We note the Applicant's response.
RR-033.58	It is unclear why this document only appears to be focussing on two marine mammal species (bottlenose dolphin and harbour porpoise). Without mitigation, all marine mammals are sensitive to injury and disturbance from piling and UXO clearance; and as European Protected Species, all cetacean species are protected from both throughout their natural range. While some species may be more abundant in the development area, the current wording suggests (incorrectly) that only two species are at risk.	The UWSMS applies to all marine mammal and fish species and mitigation is relevant to all receptors sensitive to underwater sound. However, the UWMS targets species where a residual significant effect has been identified that cannot be mitigated by the MMMP alone. The UWSMS also provides mitigation for fish receptors which are not covered by the MMMP. The wording in the Final UWSMS will be updated post-consent to provide this clarity.	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
RR-033.59	**Mitigation and monitoring schedule** The purpose of this document is to demonstrate how the Mona Offshore Wind Project has considered mitigation and monitoring commitments regarding environmental impacts identified through the Environmental Impact Assessment. Table Ref 29-34: JNCC agrees with the commitment to develop and adhere to a Marine Mammal Mitigation Plan; see below for comments on the plan provided.	The Applicant notes JNCC's response.	We note the Applicant's response.
RR-033.60	Ref 35: The Underwater Sound Management Strategy (UWSMS) is J16 of the Marine Plan, and not J19 as stated here.	The Underwater Sound Management Strategy is document J16 (APP-202) as correctly stated by JNCC.	We note the Applicant's response.
RR-033.61	Outline Offshore Operations and Maintenance Plan We encourage the developer to submit spatial and temporal information data on all licensed noisy activities to the Marine Noise Registry (MNR), including geophysical surveys which do not require a marine licence. This information will be added to other data provided for licensed activities therefore helping generate a more accurate picture of impulsive noise occurring in UK waters. The MNR is an online platform	The Applicant notes JNCC's response. Submission of data to the marine noise registry is secured in Schedule 14, Condition 29 of the Draft DCO (C1 Draft Development Consent Order F03).	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
	administered by JNCC for industry and regulators to enter activity information including location, date, and source property data.		
RR-033.62	**Outline marine mammal mitigation protocol** In line with our previous advice that UXO clearance is not included as a licenced activity in the DCO/deemed marine licence, we do not recommend that a single mitigation plan is developed for this and piling. Instead, a separate Marine Mammal Mitigation Protocol (MMMP) should be developed to support any future licence application. To support this, we highlight that:	See the Applicant's responses above to UXO clearance (RR-033.42).	See response to RR-033.42
RR-033.63	Defra will be publishing an update to the Government et al. UXO position paper in the next month. This strengthens the requirement to prioritise low noise methods of clearance and provides guidance on suitable evidence to support the use of such methods.	The Applicant notes JNCC's response. See also the Applicants response above to the UXO position paper and UXO hierarchy (RR-033.42).	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
RR-033.64	JNCC will be publishing new mitigation guidelines specifically for when clearing UXOs in the next month. These should be considered when designing mitigation plans for this activity.	The Applicant notes JNCC's response and will consider the mitigation guidelines specific for UXO clearance when it is published.	We note the Applicant's response.
RR-033.65	JNCC do not advocate the use of scare charges as a soft start for UXO as their scaring effect is not proven (Lewis 1996, Keevin and Hempen 1997), and would result in unnecessary additional noise being emitted into the environment.	The Applicant notes the advice from JNCC on scare charges. See also the Applicants response above to this advice.	We note the Applicant's response.
RR-033.66	The mitigation zone should cover the full range of predicted injury and not be restricted to the 1km referred to in the 2010 guidelines. A minimum radius of 1km should be applied.	The Applicant notes the advice on a minimum 1 km radius and will incorporate this in the final MMMP and UWSMS, in consultation with relevant stakeholders including JNCC. For UXO, the Outline MMMP (APP-207) states "following the JNCC (2010b) guidelines, a pre-detonation monitoring of at least 1 km zone should be conducted *by MMO in order to reduce the risk of marine mammals being present within this area"*. The Applicant notes this is not a finite distance and will be adapted to the exact number and size of UXO required to be cleared following further information post consent, with more detailed information from site investigation surveys.	We note the Applicant's response.
RR-033.67	Two marine mammal observers should be used to reflect the size of the mitigation	The Applicant notes the advice from JNCC on the use of two marine mammal observers to reflect the size of the	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
	zone. If Passive Acoustic Monitoring (PAM) is to be used to supplement the visual searches, an additional team member will be required to monitor this (so three in total).	mitigation zone. The Outline MMMP (APP-207) states "A minimum number of MMOs will be agreed with NRW (as the licensing authority) post-consent. Marine mammal observers should be present in sufficient numbers to ensure that monitoring is not compromised by fatigue" and the Applicant therefore welcomes the advice from JNCC, to aid discussions with the licencing authority in finalising the Final MMMP and UWSMS post-consent.	
RR-033.68	UXO clearance should not be undertaken at night or during periods of limited visibility. JNCC recently published guidance on the use of PAM as mitigation, which may be found here https://hub.jncc.gov.uk/assets/fb7d345b-ec24-4c60-aba2-894e50375e33. We recommend that this guidance is considered when finalising the piling MMMP. An update to McGarry et al. (2017) reviewing evidence to support the use of ADDs is being finalised and will be available soon and additional guidance for when using ADDs is currently being developed; refer to the JNCC webpage for updates. JNCC currently advise that a visual search is undertaken prior to activating ADDs and visual searches should be adapted to accommodate this. Paragraph 1.7.2.3 states that 'PTS onset ranges will be further reduced by the application of ADDs'.	The Applicant notes JNCC's advice on UXO clearance and use of PAM as mitigation guidance and will consider it for the Final MMMP post-consent. The Applicant is aware of the ADD review and will consider both the report and the additional ADD guidance when published. The Applicant notes the advice that a visual search is undertaken prior to activating ADDs and will incorporate this in the final MMMP and UWSMS, in consultation with relevant stakeholders, including JNCC. The Applicant notes the wording surrounding paragraph 1.7.2.3 of the Outline MMMP (APP-207) and agrees the ADD is used to encourage animals to leave this area before the sound source is activated rather than reducing PTS onset ranges. The Applicant will make sure this is corrected in the Final MMMP post-consent.	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
	This is incorrect. The Permanent Threshold Shift (PTS) onset range remains the same, the ADD is used to encourage animals to leave this area before the sound source is activated.		
RR-033.69	**Volume 6, Annex 4.1: Marine mammal technical report** We previously requested that a qualitative review of survey coverage during baseline aerial surveys be provided to better understand the value of the survey data. For example, was coverage even and were key areas of the Mona array areas covered by the surveys? We note the proportion of the survey area analysed has increased from 12 to 15% however our previous comment remains valid. It would also be beneficial to understand how this increase have been achieved and what benefits are provided.	The Applicant notes that the final densities taken forward to assessment, as agreed through the marine mammal Expert Working Group (EWG) (see Technical Engagement Plan [APP-041] and minutes of the EWG meetings in Appendix C of the Technical Engagement Plan Appendices Part 1 (A to E) (APP-042)) are derived from the Welsh Marine Mammal Atlas (Evans and Waggitt, 2023), SCANS III densities (Hammond et al., 2021) or seal at-sea usage maps (Carter et al., 2022), rather than the estimates from digital aerial survey (DAS). Therefore, further detail on digital aerial survey estimates would not change the outcome of the assessment and therefore, the Applicant does not consider further qualitative review necessary. JNCC stated in response to Marine Mammal EWG05 (see Technical Engagement Plan (APP-041)) that they were happy with the densities for the specified marine mammal species on the basis that they are either the most site-specific, or the most precautionary. The Applicant notes the request for a qualitative review of survey coverage during baseline aerial surveys. Discussion on the survey coverage is provided in Appendix A of the Marine Mammal Technical Report (APP-090), which states *"Coverage was evenly spaced over the survey areas"* and	We note the Applicant's response and no further action is needed.

Reference	Relevant Representation Comment	Applicant's response	JNCC response
		monthly survey effort across the Mona Aerial Survey Area (which covers the entirety of the Mona Array Area, plus a 10 km buffer) is presented in Table A.1 both as an area (km2) and a percentage. The aerial survey report was updated at the Environmental Statement stage, following s42 feedback on the PEIR, and survey coverage was reported per survey month in Table A.1, with an average across all months of 15.204 %. Monthly aerial survey reports (which were not presented in Appendix A of the Marine Mammal Technical Report (APP-090) for conciseness) from APEM Ltd showed the image node capture points per monthly survey. For all months within the two years of Digital Aerial Surveys (DAS), the coverage of the Mona Aerial Survey Area was evenly spaced, well covered and with no missing areas of coverage. The entire Mona Array Area was well covered in every monthly survey (see Volume 6, Annex 4.1, Appendix A: Marine Mammal Aerial Survey Data Analyses (APP-090)).	

Benthic ecology (offshore) comments

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.3	Throughout the Environmental Statement and DCO documentation there is little distinction between inshore and offshore, distinguished by the 12nm/territorial waters limit. Given the remit of Statutory Nature Conservation Bodies (SNCBs) is divided based on this factor it would be helpful to have impacts broken down into these remits. In particular, it would have been useful to have this delineation identified on all the maps provided.	The Applicant has considered the Mona Offshore Wind Project as a whole and has not divided the assessment of potential impacts by stakeholder remit or geography. The 12nm limit, in particular, does not align with a natural boundary for the Mona Offshore Wind Project, as, for example, this would split the offshore cable route. Where potential impacts or parameters have been further delineated, they have been divided by the applicable consenting process (i.e. by parameters to be secured under the draft DCO Requirements and deemed marine license and those to be secured under the standalone marine licence). The Applicant notes that JNCC did not raise this point in their s42 feedback on the PEIR. The 12 nm limit for inshore waters is marked on figures in a number of chapters including figure 1.1 Volume 1, Chapter 1: Introduction and overarching glossary (APP-048), figure 3.2 Volume 1, Chapter 3: Project description (APP-050), figure 4.1 of Volume 1, Chapter 4: Site selection and consideration of alternatives (APP-051), figure 1.1 of Volume 2, Chapter 1: Physical processes (APP-053), figure 2.1 of Volume 2, Chapter 2: Benthic, subtidal and intertidal ecology (APP-054) and the Location Plan (APP-006). Considering the aforementioned reasons, no further delineation of plans is proposed.	JNCC's remit, including under marine licences, extends out from 12nm. The 12nm limit is necessary to allow us to assess any potential benthic impact to the offshore environment. Therefore, distinguishing between the inshore (within 12nm) and offshore (beyond 12nm) environment is required when assessing marine benthic impacts. We appreciate that this would split the offshore cable route and habitats but without this split we cannot assess the impact accurately. This is of particular concern in relation to the export cables and the impacts resulting from sandwave clearance.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.71	Overall comments JNCC are of the opinion that not all seabed impacts have been fully considered and it was not always clear that the correct footprint values have been utilised within the analysis or between chapters. Further detail of this is provided in the below sections. JNCC do not agree with the values attributed within the assessment of significant effects, covered in Sections 2.9 and 2.11 of Volume 2, Chapter 2. The magnitude of impact has been assessed too low, incorrect assumptions of feature sensitivity has been applied to the seapens and burrowing megafauna communities Important Ecological Features (IEF), and the subsequent adverse significance has been under-represented. As an example, taking the 'as is' situation with a 'Low' magnitude of impact and a 'High' sensitivity, the adverse significance would be 'Minor or Moderate', as detailed on page 17 of Volume 1, Chapter 5, but has been reported as 'Minor'. We believe it would be more appropriate to take the worst-case scenario and apply a 'Moderate' adverse significance. We would therefore recommend that, as a minimum, all	The assessments presented in Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054) have been undertaken to ensure the most precautionary sensitivity is applied when combining pressures. The site-specific benthic surveys identified very few burrows at stations where soft sediment was dominant. In combination with an absence of seapens and the predominantly gravelly sediment, it was concluded that these areas only had a negligible resemblance to the 'seapens and burrowing megafauna communities' habitat. Therefore, a precautionary approach was adopted for stations where burrows were observed at an average SACFOR of 'frequent', and these stations were, for the purposes of the assessment, assumed to represent the 'seapens and burrowing megafauna communities' habitat. The sensitivity allocated to the seapens and burrowing megafauna communities Important Ecological Feature (IEF) was based on the high sensitivity allocated in the Marine Evidence based Sensitivity Assessment (MarESA) to the relevant impacts (abrasion/disturbance at the seabed, penetration of the substratum subsurface and heavy smothering). This sensitivity rating is primarily driven by the fragile nature of seapens as an epifaunal species. The site-specific surveys identified few burrows and no seapens within the Mona Offshore Wind Project therefore, the sensitivity associated with this habitat was reduced to medium.	We note the Applicant's response.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	significance of effect be reassessed taking into account the worst-case scenario.	An example of expert judgement being applied in regard to sensitivity is in the Berwick Bank Offshore Windfarm fish and shellfish assessment of injury and disturbance from underwater noise and vibration. In this assessment following consideration of the distance between the site of impact and the nearest herring spawning area herring which are normally allocated a sensitivity of high to this impact were instead allocated the sensitivity of medium (SSE Renewables, 20234). Therefore, the Applicant considers that the assessment of the 'seapens and burrowing megafauna communities' habitat is sufficiently precautionary in this regard. Furthermore, to have adopted the full MarESA sensitivities, without amending for the particular sensitivity of seapens, would have over-estimated the impact to the specific habitat present in the Mona Offshore Wind Project. The Applicant is confident that the impacts to the seapens and burrowing megafauna communities Important Ecological Features will be no greater than minor adverse significance and are therefore not significant in EIA terms (Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054)).	The Applicant has taken a precautionary approach and has subsequently assumed that the OSPAR T&D habitat 'seapens and burrowing megafauna communities' will be present and impacted. JNCC agree with this approach. As this habitat occurs within the development area it must be assumed that it will be directly impacted. The Berwick Bank Offshore Windfarm example, which the Applicant provided, was related to a receptor outside of the direct impact area, JNCC do not consider this to be a comparable example. As the Applicant has identified the OSPAR T&D habitat to be present, whether precautionary or not, it is not appropriate to change the sensitivities as reported by MarESA.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		In accordance with the EIA methodology followed for the Mona Offshore Wind Project, as detailed in Volume 1, Chapter 5: Environmental Impact Assessment methodology (APP-052), where a range is suggested for the significance of effect, there remains the possibility that this may span the significance threshold (i.e. the range is given as minor to moderate). In such cases, the final significance is based upon the topic expert's professional judgement as to which outcome delineates the most likely effect, with an explanation as to why this is the case. Where this has been undertaken in Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054), explanations are provided in the text to support the conclusions. This approach is supported by the general approach described in the Design Manual for Roads and Bridges, which suggests an evidence-based approach when reviewing the multiple outcomes presented in the conclusion of the effects matrix, as applied in this scenario regarding the lack of seapens identified in the site-specific surveys. This approach has been applied throughout Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054). For example, in paragraph 2.9.2.47, for the littoral sand and muddy sand supporting infaunal communities IEF, the low magnitude and high sensitivity resulted in a minor or moderate result in the significance matrix. A conclusion of minor adverse significance was determined due to the small scale of the work in the intertidal zone.	JNCC acknowledges that there has been a lack of seapens identified from surveys carried out. However, the Applicant has stated, as a precaution, that the OSPAR T&D habitat 'seapens and burrowing megafauna communities' is present. Therefore, it is appropriate that this habitat is assessed fully and would justify assessing the significance of effect as 'moderate' when a range is given as 'minor to moderate'.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.72	In Section 5.3.6.8 and Table 5.4, of Volume 1 Chapter 5, the spatial extent of the impact is defined as "Geographical area over which the impact may occur". Including the whole licence area as the spatial extent is not proportionate to the identified impact pathway especially if the whole area has no opportunity to be impacted. This then gives an unrealistic percentage of impact area and subsequently a magnitude of impact that is not representative. Some more detailed examples are covered for specific sections below but we would recommend that all magnitude of impacts are re-assessed taking this into account.	Table 5.4, of Volume 1, Chapter 5: Environmental Impact Assessment methodology (APP-052) explains that topic-specific definitions for the magnitude categories are provided in each of the topic chapters. The definitions relevant to the assessment of magnitude for benthic subtidal and intertidal ecology are as outlined in Table 2.14 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054). The assessments of magnitude have been based on the total areas of habitat disturbance/loss (in m2/km2) with percentages of the project areas affected presented to provide additional context.	JNCC welcomes the Applicant's response. However, this does not change our position.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.73	JNCC have concerns around the expected decommissioning of the infrastructure, in particular around the decommissioning of gravity-based infrastructure and the full removal of all cables. Lessons learnt from the oil and gas industry have shown that the decommissioning of gravity-based infrastructure is not always feasible, or possible, leading to permanent habitat change. The impacts of this scenario should be considered.	As outlined in section 3.13 of Volume 1, Chapter 3: Project description (APP-050), no offshore decommissioning works will take place until a written decommissioning programme has been approved by the Secretary of State for the Department for Energy Security and Net Zero, a draft of which will be submitted prior to the construction of the Mona Offshore Wind Project. The scope of the decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning (i.e. including latest guidance on best practice for the decommissioning of cables). Gravity based infrastructures will all be removed upon decommissioning of the Mona Offshore Wind Project. At the end of the operational lifetime of the Mona Offshore Wind Project, the maximum design scenario for hard substrate removal includes the removal of all structures above the seabed or ground level including wind turbine foundations (including gravity based foundations), OSP foundations, scour protection, cable protection and protection for cable crossing. However, the maximum design scenario for long term habitat loss has assumed that cable and scour protection may be left in situ and the wind turbine foundations will be removed, including gravity based foundations. These are the scenarios that have been assessed in the Environmental Statement. Any deviation from this would be considered and assessed as part of the decommissioning programme at the time of decommissioning.	JNCC welcomes the Applicant's response. However, this does not change our position.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.74	JNCC welcomes the proposal to remove all cabling from the Array Area and Cable Corridor. Based on our current experience, this is not always possible, especially when the cable is buried. Leaving buried cables in situ and removing un-buried sections would normally include protection of the cut end with rock dump increasing the final footprint of the project. Although JNCC acknowledge future advancement of decommissioning technology may solve this issue, this scenario has not been considered.	The maximum design scenario for temporary habitat disturbance has assessed the removal of all cables, which could require the use of similar equipment as used to install the cables as set out in Section 3.13.2 of Volume 1, Chapter 3: Project description (APP-050). However, the Applicant has not committed to the removal of cables in the decommissioning phase and the decision on whether to remove offshore cables will be taken at the time of decommissioning in consultation with the relevant stakeholders. The project design assessed in the Environmental Statement does not include additional cable protection to be installed at the point of decommissioning. Given the uncertainty regarding the relevant legislation and guidance at the time of decommissioning, deviation from this would be considered and assessed as part of the decommissioning programme at the time of decommissioning. Should rock bags be required to ensure that decommissioned cable ends do not become a hazard to navigation or fishing, a Marine Licence application would be required as part of the decommissioning plan (as stated in APP-050).	JNCC acknowledges the maximum design scenario for temporary habitat disturbance has been assessed for the removal of all cables. The use of rock protection at cut ends would, however, be a permanent impact and, as per our initial comment, has not been assessed.
RR-033.75	Section 3.5.4.3, page 10: “If Mona infrastructure crosses any out of service cables, these will be removed where feasible.” It is not clear if any remediation (i.e. rock dump for protection) will be carried	The Applicant can confirm that in relation to Section 3.5.4.3 of Volume 1, Chapter 3: Project Description (APP-050), any cable removal will be undertaken in consultation with the asset owner and in accordance with the International Cable Protection Committee (ICPC) guidelines (2011). Where feasible, cables will be retrieved to a vessel deck, where	JNCC welcomes the Applicant’s response. However, the Applicant has not addressed our concerns around remediation at cut ends.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	out on the cut ends of the out of service cables left on the seabed.	one end will be cut, the cable will be pulled past the crossing point, and then cut again before being pulled to the surface where it will be removed from site by the vessel.	
RR-033.75	Table 3.4, page 12: As the cable corridor includes both the inshore and offshore (outside 12nm) waters, it is not possible to determine the maximum design parameters for sandwave clearance in the offshore. We assume that the majority of sandwave clearance within this area will be inshore.	The maximum design scenario for sandwave clearance along the offshore export cable has not been sub-divided to offshore and inshore waters. Final requirements for sandwave clearance will be based on pre-construction site investigation and final detailed design and set out in the construction method statement required to be approved by the licencing authority as secured under Schedule 14, Condition 18(1)(d) of the Draft DCO (APP-023).	JNCC's remit, including under marine licences, extends out from 12nm. The 12nm limit is necessary to allow us to assess any potential benthic impact to the offshore environment. Therefore, distinguishing between the inshore and offshore environment is required when assessing marine benthic impacts. We appreciate that this would split the offshore cable route and habitats but without this split we cannot assess the impact accurately.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.76	Table 3.11 and 3.12, page 22, and Tables 3.14 to 3.17, pages 25 to 28: Values for the maximum seabed area (total foundations and scour protection for all foundations) were found to be incorrect in all six of the above listed tables. Assuming the values for the maximum seabed area per foundation and scour protection per foundation are correct, the total foundations and scour protection for all foundations values were found to be significantly underestimated (see table below). By our calculations, the following totals should be: Table 3.11: Original total = 284,360m^2; corrected total* = 401,472m^2; underestimated difference = 117,112m^2 Table 3.12: Original total = 10,745m^2 ; corrected total* = 35,336m^2; underestimated difference = 24,591m^2 Table 3.14: Original total = 735,488m^2; corrected total* = 1,038,336m^2; underestimated difference = 302,848m^2 Table 3.15: Original total = 24,964m^2 ; corrected total* = 60,116m^2; underestimated difference = 35,152m^2 Table 3.16: Original total = 612,084m^2; corrected total* = 724,896m^2; underestimated difference = 112,812m^2 Table 3.17: Original total = 24,941m^2 ;	The Mona Offshore Wind Project has adopted a maximum design scenario approach which allows the EIA process to be conducted on the basis of a realistic 'worst case' scenario (i.e. the maximum project design parameters) which is selected from different design and construction scenarios. Therefore, it is not appropriate to multiply the maximum number of turbines specified in Volume 1, Chapter 3: Project description (APP-050) by the maximum seabed area per foundation as that is not a what is being applied for in relation to the Mona Offshore Wind Project (as set out in Table 3.5 of Volume 1, Chapter 3: Project description (APP-050)). The values for total seabed take and volumes of scour protection/drill arising etc., as specified in the DCO, are correct and accurate and will not be exceeded. The information provided in Table 3.11, 3.12, 3.14, 3.15 and 3.16 in Volume 1, Chapter 3: Project description (APP-050) represents the maximum for each parameter however this does not represent the maximum design scenario (i.e. all of these parameters would not occur in one scenario). For example the maximum total seabed footprint for wind turbine generators (including scour protection) of 735,488 m2 is the result of a scour protection area of 10,012 m2 plus a foundation area of 804 m2 multiplied by 68 (the maximum number of wind turbines with jacket foundations associated with this seabed footprint scenario). The corresponding scenario quoted by JNCC uses all the maximum values to create a maximum total seabed footprint for wind turbine generators (including scour	JNCC thanks the Applicant for their clarification on their maximum design scenario. Our understanding now is that the figures were derived using the lower value of the wind turbine range provided (i.e. 68 to 96 turbines). As the Applicant is assessing a 'maximum scenario', we would expect the maximum number of turbines to be used (i.e. 96). If our understanding is correct and the lower number has been used, we suggest that this is made clearer in the documentation but raises the question whether a 'maximum scenario', has actually been assessed. If the intention is to use the maximum number of turbines, then our position remains unchanged with regard the Applicant's calculations. In order to potentially update our position on this matter we would require an explanation as to why, or how, the installation of 96 turbines would not have an individual footprint of 10,816m^2 and why this footprint (including scour protection) only applies when 68 turbines are to be installed.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	corrected total* = 74,508m^2; underestimated difference = 49,567m^2 * This is based on our interpretation of the data within the ES, notwithstanding our comments above on the numerous numerical errors throughout the ES.	protection) of 1,038,336 m2 (the result of a scour protection area of 10,012 m2 plus a foundation area of 804 m2 multiplied by 96 turbines) however this is not a viable scenario for this project and the maximum footprint for wind turbine generators has therefore not been underestimated. The same reasoning applies for the other scenarios outlined by JNCC. Whilst not all of these scenarios have been presented in Volume 1, Chapter 3: Project description (APP-050), for each of the relevant assessments the maximum design scenario has been applied and is presented in the relevant chapter.	

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.77	Section 3.5.8.7, page 23: Drill arisings from drilling of pin piles will create cuttings piles. A maximum seabed impact area should be calculated for these as cutting piles will impact the local environment and should be considered in more detail.	The Mona Offshore Wind Project has adopted a maximum design scenario approach which allows the EIA process to be conducted on the basis on a realistic 'worst case' scenario (i.e. the maximum project design parameters) which is selected from different design and construction scenarios. Seabed preparation works prior to suction bucket jacket installation represents the maximum design scenario, with respect to spatial extent for temporary habitat loss accounting for 16,833,242 m2 of disturbance (as a result of 8,416,621 m3 of sediment deposited at a depth of 0.5 m). The temporary habitat loss associated with drill arisings resulting from jacket foundation installation is considered to fall within the area of disturbance described for seabed preparation for the foundations. Additionally paragraph 1.9.2.8 of Volume 2, Chapter 1: Physical Processes highlights that sedimentation beyond the immediate drilling location will be indiscernible. The Mona Offshore Wind Project has committed to depositing material arising from drilling in close proximity to the works (Table 2.19 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054)).	JNCC welcomes the clarification and agrees with this approach.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.78	Section 3.13.2.3, page 80: Wording in relation to cable decommissioning was found to be inconsistent between documents. This section suggests cables “may be retrieved” at decommissioning while Volume 2, Chapter 2, ‘Mona ES Benthic subtidal and intertidal ecology’ (Table 2.18, page 79) states all cables “will be removed” at decommissioning. JNCC assume all cables will be removed at decommissioning but this needs to be clarified by the applicant.	The Applicant has not committed to the removal of cables in the decommissioning phase and the decision on whether to remove offshore cables will be taken at the time of decommissioning in consultation with the relevant stakeholders. The Applicant has, however, adopted a maximum design scenario approach and given that there is the possibility that all cables may be removed, as outlined in Volume 1, Chapter 3: Project description (APP-050), this has been assessed as the maximum design scenario for relevant impacts such as temporary habitat disturbance in Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054). As outlined in section 3.13 of Volume 1, Chapter 3: Project description (APP-050), no offshore decommissioning works will take place until a written decommissioning programme has been approved by the Secretary of State for the Department for Energy Security and Net Zero (formerly the Department for BEIS), a draft of which will be submitted prior to the construction of the Mona Offshore Wind Project. The decommissioning programme will be updated during the Mona Offshore Wind Project lifespan to take account of changing best practice and new technologies. The scope of the decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning (i.e. including latest guidance on best practice for the decommissioning of cables).	JNCC welcomes the Applicant’s response. However, we feel the wording remains inconsistent.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.79	Section 3.13.2.4, page 80: JNCC would expect all mattresses (concrete and frond) and rock bags used for cable protection to be removed at decommissioning.	As outlined in section 3.13 of Volume 1, Chapter 3: Project description (APP-050), the project position is that cable protection will preferably be left in situ, but removal has been assessed where this represents the maximum design scenario for relevant impacts for benthic receptors (e.g. removal of hard substrates). Conversely, where leaving cable protection in situ represents the maximum design scenario this has been assessed for relevant impacts (e.g. long term habitat loss). The scope of the decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning (i.e. including latest guidance on best practice for the decommissioning of cable protection).	JNCC welcomes the Applicant's response. However, this does not change our position.
RR-033.80	Section 3.13.2.5, page 81: We would agree that the cable installation and removal impacts would have the same temporary impact. However, if cables were left in situ and required protection through rock dump (for example through cut ends or free spans), this would increase the permanent impact to the seabed and should be considered further.	The project design assessed in the Environmental Statement does not include for additional cable protection to be installed at the point of decommissioning. The decommissioning programme will be updated during the Mona Offshore Wind Project lifespan to take account of changing best practice and new technologies. The scope of the decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning (i.e. including latest guidance on best practice for the decommissioning of subsea cables).	JNCC welcomes the Applicant's response. However, this does not change our position.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.81	Section 1.9.5.10, page 83: We believe that the total Offshore Substation Platforms (OSP) footprint should be 20,180m^2 and not 19,500m^2 as detailed in comments above regarding the tables in Volume 1, Chapter 3. Note, the calculations detailed here are based on our interpretation of the data within the ES, notwithstanding our comments above on the numerous numerical errors throughout the ES.	The Mona Offshore Wind project has adopted a maximum design scenario approach which allows the EIA process to be conducted on the basis of a realistic 'worst case' scenario (i.e. the maximum project design parameters) which is selected from different design and construction scenarios. Therefore, it is not appropriate to multiply the maximum number of OSPs specified in Volume 1, Chapter 3: Project description (APP-050) by the maximum seabed area per foundation, for example. As explained in Table 1.15 of Volume 2, Chapter 1: Physical processes (APP-053), the greatest overall in-water column blockage to influence tidal flow and wave climate from the OSPs is the maximum number of OSPs (four) with gravity base foundations. These parameters also present the largest overall footprints to affect changes in bathymetry and sediment transport pathways. However, the greatest single site influence in terms of OSP structures is the rectangular gravity base structure, which is larger than other foundation options. This was demonstrated in modelling of this single foundation under sensitivity testing presented Section 1.4.4 in Volume 6, Annex 1.1: Physical processes technical report (APP-86).	JNCC welcomes the Applicant's response. However, this does not change our position as it remains unclear to us why it is not appropriate to multiply maximum number of OSPS by the maximum seabed area per foundation.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.82	Table 2.8, page 31: We agree that Jack up vessel events on their own would be a temporary habitat loss/disturbance. However, jack up events regularly require extra stabilisation through rock dumping, particularly in softer seabed environments and/or within high dynamic environments. The extra rock dump required for jack up events has not been accounted for and should be considered a permanent impact and be included within the long term habitat loss/habitat alteration impact during construction, operation and maintenance, and also during decommissioning. Foundation removal does not address gravity-based structures for turbines or OSPs. If these are not possible to decommission (see comments above), they should be treated as a permanent habitat change. Introduction of additional rock protection has not been considered. For example, at cable cut ends if not fully removed, at cable free spans, jack up vessel stabilisation (as discussed above), cable crossings and protection, or scour protection.	The Applicant can confirm that it does not anticipate a requirement for rock dumping to stabilise jack-up operations. At the end of the operational lifetime of the Mona Offshore Wind Project, it is anticipated that all structures above the seabed or ground level will be completely removed where feasible and practical. The maximum design scenario assessed has assumed that cable protection and scour protection may be left in situ. These are the scenarios that have been assessed in the ES. Any deviation from this would be considered and assessed as part of the decommissioning programme at the time of decommissioning taking into account latest guidance and best practice on decommissioning. As outlined in section 3.13 of Volume 1, Chapter 3: Project description (Document Reference APP-050), no offshore decommissioning works will take place until a written decommissioning programme has been approved by the Secretary of State for the Department for Energy Security and Net Zero (formerly the Department for BEIS). The decommissioning programme will be updated during the Mona Offshore Wind Project lifespan to take account of changing best practice and new technologies. The scope of the decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning. For example, the Applicant has not committed to the removal of cables in the decommissioning phase and the decision on whether to remove offshore cables will be taken at the time of decommissioning in	JNCC welcomes the Applicant's confirmation that rock dumping would not be anticipated for jack-up events. Our concerns still remain around foundation removal of gravity-based structures for turbines or OSPs and the introduction of additional rock protection.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		consultation with the relevant stakeholders. The addition of rock protection over cables and around foundations is fully considered and our assumptions are set out in each chapter's section on the maximum design scenario, e.g. see section 1.7.1 and Table 1.15 in Volume 2, Chapter 1: Physical processes (APP-053). The initial assessment deemed that no cable free spans would be undertaken and is secured through the detailed cable specification and installation plan, incorporating a cable burial risk assessment, in adherence to the Applicant's commitments secured under Schedule 14, Condition 18(1)(d) of the Draft DCO (C1 Draft Development Consent Order F03).	

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.83	Table 2.18, page 84: We welcome the suggested removal of all scour protection, cable protection, and crossing protection. However, the detail provided within this table contradicts details provided in Volume1, Chapter 3, Section 3.13.2.4, page 80 (see previous comment). Furthermore, if rock dump were to be used for protection, it is highly unlikely that the rock will be able to be removed and would therefore remain a permanent impact.	As outlined in section 3.13 of Volume 1, Chapter 3: Project description (APP-050), the project position is that cable protection and scour protection will preferably be left in situ, but removal has been assessed where this represents the maximum design scenario for relevant impacts for benthic receptors (e.g. removal of hard substrates). Conversely, where leaving cable and scour protection in situ represents the maximum design scenario this has been assessed for relevant impacts (e.g. long term habitat loss). The scope of the decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning (i.e. including latest guidance on best practice for the decommissioning of cable protection).	JNCC welcomes the Applicant's response. However, this does not change our position.
RR-033.84	Table 2.18, page 85: Changes in physical processes will occur at all three phases, not just the operation and maintenance phase. Decommissioning will affect physical processes, although at a much smaller scale, with the addition of rock dump and infrastructure that will be permanently left in situ.	As explained in section 1.9.4. of Volume 2, Chapter 1: Physical processes (APP-053), during the construction phase there will be gradual changes to physical processes as infrastructure is introduced into the environment. This would result in changes and therefore potential impacts ranging from the baseline environment (no presence of infrastructure) to the operational phase maximum design scenario, which are therefore fully assessed in the operation and maintenance phase assessment in section 2.9.9 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054). Changes to physical processes during the decommissioning phase is fully assessed in paragraph 2.9.9.60 et seq. of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054).	JNCC welcomes the Applicant's response. However, this does not change our position.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.85	Section 2.9.2.27, page 103: We would not agree with a reduction in the sensitivity of the seapens and burrowing megafauna communities from 'High' to 'Medium'. We acknowledge that seapens have not been recorded within the site-specific surveys to date but seapens do not have to be present to define this OSPAR T&D habitat, as also acknowledged within this section. For this reasoning, it would not be appropriate to reduce the sensitivity to 'Medium' and it should remain as 'High'. This would also apply to all subsequent sections (e.g. Section 2.9.2.32).	As outlined in section 1.7.6 of Volume 6, Annex 2 1: Benthic subtidal and intertidal ecology technical report (APP-087) and in the response to RR-033.71 above, the site-specific benthic surveys identified very few burrows at stations where soft sediment was dominant. In combination with an absence of seapens and the predominantly gravelly sediment, it was concluded that these areas only had a negligible resemblance to the 'seapens and burrowing megafauna communities' habitat. Therefore a precautionary approach was adopted for stations where burrows were observed at an average SACFOR of 'frequent', and these stations were, for the purposes of the assessment, assumed to represent the 'seapens and burrowing megafauna communities' habitat. The sensitivity allocated to the seapens and burrowing megafauna communities IEF was based on the high sensitivity allocated in the MarESA to the relevant impacts. This sensitivity rating is primarily driven by the fragile nature of seapens as an epifaunal species. As previously noted site specific surveys identified no seapens within the Mona Offshore Wind Project therefore the sensitivity associated with this habitat was reduced to medium. Therefore, the Applicant considers that the assessment of the 'seapens and burrowing megafauna communities' habitat is sufficiently precautionary in this regard. Furthermore, to have adopted the full MarESA sensitivities, without amending for the particular sensitivity of seapens, would have over-estimated the impact to the specific habitat present in the Mona Offshore Wind Project. The	JNCC do not agree with the Applicant's response and our initial response remains.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
		Applicant is confident that the impacts to the seapens and burrowing megafauna communities Important Ecological Features will be no greater than minor adverse significance and are therefore not significant in EIA terms.	
RR-033.86	Section 2.9.2.51, page 110: We agree that the seabed will recover after the removal of the jack-up vessel's spud cans but only when no rock dump has been used for stabilisation or scour protection of the spud cans (see comment on Table 2.8 above).	The Applicant can confirm that it does not anticipate requirements for rock dumping to stabilise jack-up operations.	JNCC welcomes the Applicant's confirmation that rock dumping would not be anticipated for jack-up events. However, no such operations and impacts have therefore been assessed for the project and included in the DCO

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
			requirements, i.e. so if it is found to be required a separate license would then be needed.
RR-033.87	Section 2.9.5.10, page 146: JNCC do not agree with a low magnitude of impact, considering over two million square meters (Section 2.9.5.7) of seabed will be permanently impacted/changed. Section 2.9.5.7 highlights the impact area and gives a percentage of that compared with the Mona benthic subtidal and intertidal ecology study area (0.17%). This is not helpful as those areas include large portions that will not be directly impacted by the operations. A more useful area comparison for calculating the impact percentage would be of the total direct and indirect (temporary) impact areas. Combining the Long-term habitat loss and Temporary habitat loss areas would provide a more meaningful impact percentage and subsequent meaningful magnitude.	The assessments of magnitude have been based on the total areas of habitat disturbance/loss (in m2/km2) and the Applicant considers that presenting the percentages of the study area affected is useful in providing wider context to the values of long term habitat loss. Furthermore, the Applicant does not consider it appropriate to sum the values predicted for long term habitat loss and temporary habitat disturbance as the nature of the impacts (e.g. duration and recovery) are very different. The maximum design scenario for long term habitat loss is considered to be consistent with the definition of a low magnitude of impact (i.e. some measurable change in attributes, quality or vulnerability, minor loss or, or alteration to, one (maybe more) key characteristics, features or elements (Adverse)).	JNCC welcomes the Applicant's response. However, this does not change our position.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
RR-033.88	Section 2.9.5.22, page 150: JNCC do not agree with the suggestion that the permanent presence of cable and scour protection should be considered as permanent habitat alteration rather than permanent habitat loss. The permanent introduction of hard substrates into a soft sediment environment would be a permanent habitat loss that leads to a regime shift of that habitat (i.e. a permanent habitat alteration). It should therefore be considered as permanent habitat loss. This should be taken into account when re-assessing the magnitude of impact (Section 2.9.5.23, page 151).	The assessment of the potential for cable and scour protection to remain in situ post-decommissioning has been assessed as permanent long term habitat loss/habitat alteration (paragraphs 2.9.5.22 to 2.9.5.32 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054)), so considers both the loss of the sedimentary environment and the localised change/alteration to a hard substrate. The assessment concludes the effect will be of minor adverse significance.	JNCC welcomes the Applicant's response. However, this does not change our position. We remain of the opinion that permanent presence of cable and scour protection should be considered as permanent habitat loss and not habitat alteration.
RR-033.89	Section 2.9.6.6, page 153: JNCC recognise that settlement and subsequent recruitment on clean artificial structures is very complex. It should not be expected that colonisation will consist entirely of already present flora and fauna. Opportunistic colonisation will occur from flora and fauna that would not normally be recorded in the area due to the clean artificial surfaces allowing for opportunistic settlement. This has the potential to alter subsequent settlement and recruitment that can lead to a different final community composition. Additionally,	The assessment of the effects associated with the introduction of artificial structures, presented in section 2.9.6 of Volume 2, Chapter 2: Benthic subtidal and intertidal ecology (APP-054), has drawn upon the latest published studies and research papers. The assessment considers the complexities of this impact, addressing both the potential impacts of the introduction of infrastructure on biodiversity and also the potential for adverse effects on the wider soft sediment environment. The Applicant is confident that the effects associated with this impact pathway will be no greater than minor adverse significance and are therefore not significant in EIA terms.	JNCC welcomes the Applicant's response. However, this does not change our position.

Reference	Relevant Representation Comment	Applicant's response	JNCC's response
	temporal variation will also determine the final community composition (e.g. studies have shown different community composition depending on the time of year when the artificial structure was introduced). Please contact JNCC with any questions regarding the above comments.		

Please contact me with any questions regarding the above comments.

Yours sincerely,

Richard Shelmerdine

Offshore Industries Adviser

[redacted]

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