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Image of an offshore wind farm

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Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F01	Examination – Deadline 3	RPS	Mona Offshore Wind Ltd.	Mona Offshore Wind Ltd.	30 Sept 2024
F02	Examination – Deadline 4	RPS	Mona Offshore Wind Ltd.	Mona Offshore Wind Ltd.	04 Nov 2024

Prepared by:	Prepared for:
RPS	**Mona Offshore Wind Ltd.**

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Glossary

Term	Meaning
Applicant	Mona Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Mona Offshore Wind Project	The Mona Offshore Wind Project is comprised of both the generation assets, offshore and onshore transmission assets, and associated activities.
The Planning Inspectorate	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects.

Acronyms

Acronym	Description
~~AEoSI~~AoSI	Adverse effect on site integrity
BDMPS	Biologically Defined Minimum Population Scales
CGR	CGR
CPS	CPS
EIA	Environmental Impact Assessment
ExA	Examining Authority
HRA	Habitats Regulations Assessment
JNCC	Joint Nature Conservation Committee
LCI	Lower confidence interval
NRW	Natural Resources Wales
PVA	Population Viability Analysis
SNCB	Statutory Nature Conservation Body
SPAs	Special Protection Areas
SSSI	Site of Special Scientific Interest
UCI	Upper confidence interval
UK	United Kingdom

Units

Unit	Description
%	Percentage
km^2	Square kilometres
km	Kilometres
m	Metres

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1.1.1.1 The Applicant notes that Natural Resources Wales (Advisory) (NRW(A)) and the Joint Nature Conservation Committee (JNCC) have made relevant representations (RR-011 and RR-033, respectively) and written representations (REP1-056; REP1-066/REP1-067, respectively) regarding their ability to follow the assessment approach presented in the Habitat Regulations Assessment (HRA) and Environmental Impact Assessment (EIA) application materials. For example, NRW(A) (RR-011, page 6) stated that "*Whilst we consider that the likely significant effects from the project alone will not result in Adverse Effect on Site Integrity (AEoSI), the assessment and process of reaching the predicted Document Reference: S_D2_2 5 impacts in the HRA Stage 1 Screening Report [APP-034] and HRA Stage 2 Information to Support an Appropriate Assessment (ISAA) Special Protection Areas (SPAs) and Ramsars [APP-033] is currently difficult to follow and unclear in places*." The Applicant appreciates that the information supporting the HRA and EIA is distributed across several application documents.

1.1.1.2 Furthermore, the Applicant notes that NRW(A) and the JNCC have highlighted in their relevant representations (RR-011 and RR-033, respectively) and written representations (REP1-056; REP1-066/REP1-067, respectively) several instances where they do not consider the Applicant's EIA and HRA to have been undertaken in accordance with their advice with respect to the methodologies and input parameters used. The Applicant has responded to specific points raised by NRW(A) and the JNCC in the Applicant's Response to Relevant Representations (PDA-008; see rows RR-011.13 and RR-033.5) and the Applicant's Response to NRW (A) Written Representations (REP2-080; see rows REP1-056.89 - REP1-056.101) and JNCC Written Representations (REP2-081: see rows REP1-066.2, REP1-066.39 - REP1-066.41).

1.1.1.3 Under Rule 17 of the Infrastructure Planning (Examination Procedure) Rules 2010 (as amended), the Examining Authority (ExA) has requested that an assessment of effects on ornithological features (for both the EIA and HRA) using the methods and parameters highlighted by NRW(A) and JNCC during pre-application consultation, and in their relevant representation (RR-011; RR-033) and written representations (REP1-056; REP1-066/REP1-067) should be submitted by Deadline 3.

1.1.1.4 The Applicant wishes to highlight that extensive consultation was undertaken with NRW, the JNCC and Natural England during the pre-application phase via the Evidence Plan Process (EPP), including on methodological approaches and input parameters to seek agreement on the Applicant's approach where possible. This is detailed in the Technical Engagement Plan (APP-041) and Annex D of the Technical Engagement Plan Appendices Part 1 (A to E) (APP-042). Through these discussions, it was not possible to discuss and agree on all aspects of the methodologies.

1.1.1.5 In response to the Examining Authority's Rule 17 (PD-012) letter and NRW's and the JNCC's relevant representations (RR-011 and RR-033, respectively) and written representations (REP1-056; REP1-066/REP1-067, respectively), the Applicant has sought to present the EIA and HRA requested information in accordance with the SNCBs' advice alongside the Applicant's identified approach (based on an assessment of available evidence and those approaches used by other recently consented offshore wind farms) for determining impacts in the Environmental Statement and the HRA.

1.1.1.6 This technical note brings together the key assessment information provided in the Development Consent Order (DCO) application, with clear signposting to the source of this information and where further supporting details can be found within the application documents. In addition, this technical note provides supporting information requested in NRW's and the JNCC's representations made in the examination of the Mona Offshore Wind Project to date.

1.1.1.7 This supporting information is provided to give the SNCBs the information requested and to provide confidence that the EIA and HRA conclusions are robust. It is also intended to provide sufficient understanding of the potential impacts of the Mona Offshore Wind Project (alone and cumulatively/in-combination with other plans and projects) for the SNCBs to confirm their position with respect to a conclusion of no significant effects and AEoSI beyond reasonable scientific doubt.

1.1.1.8 A version of this note was submitted at Deadline 3 (REP3-059). Since Deadline 3, the Applicant has sought to engage with NRW (A) and the JNCC on the information provided to understand whether this sufficiently addresses the SNCB's concerns and to ensure any outstanding matters can be resolved as soon as possible. In light of feedback received from the JNCC and NRW (A) following the submission of this note at Deadline 3, the Applicant has provided an update version (this note) into Examination at Deadline 4. The main changes include:

- the inclusion of the gap-filled projects (method and detailed results presented in Offshore Ornithology Cumulative Effects Assessment and In-combination Gap-filling Historical Projects Technical Note (S D3 12 F02)) within the in-combination assessment.
- The provision of additional information to clarify what abundances and impacts have been used within the in-combination assessment for each of the other offshore wind projects.
- The provision of additional information to clarify what age-class apportionment for each bioseason has been used as part of the assessment. It should be noted that the Applicant maintains that due to the spatial scales covered by the in-combination projects the stable-age structure from Furness (2015) is the most appropriate approach as it is considered to represent the best available evidence and is consistent with the approach taken for other consented offshore wind projects and the Round 4 Plan Level HRA. Assuming 100% of birds are adults in the absence of site-specific data (which the vast majority of the projects considered within the in-combination and cumulative assessments do not have) would lead to artificially and disproportionately high impact figures and has therefore not been adopted in the in-combination and cumulative assessments.

A summary of relevant representations and written representations post-application consultation and feedback received from the SNCBs since Deadline 3 is presented in Table 1-1 alongside how the comments have been considered by the Applicant.

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NRW (A) relevant representations (Applicant's Response to Relevant Representations (PDA-088); see row RR-011.13)	NRW(A) notes that the Applicant's approach and presentation of apportionment of predicted impacts is, in places, difficult to follow and unclear. NRW(A) require clarification (potentially to include a full worked example for a species and site of all apportioning (age classes and apportionment of impacts)) and/or updates to the assessment are required.	This supporting information technical note brings together the key assessment information in a single document, with clear signposting to the source of this information and where further supporting details can be found within the application documents.
JNCC relevant representations (Applicant's Response to Relevant Representations (PDA-088); see row RR-033.5)	JNCC notes that many aspects of the assessment are difficult to follow, what has been done, or where values have come from.	
NRW (A) written representations (Appendix to Response to WRs: NRW (REP2-080); see rows REP1-056.88 - REP1-056.101)	NRW (A) highlighted that they would base their advice and conclusions on assessments that consider the full range of advised displacement and mortality rates that follow SNCB guidance. As the apportioned impacts across the full range of advised displacement and mortality rates are currently not available for each designated site in the HRA Stage 1 Screening Report (REP2-012) or HRA Stage 2 Information to Support Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010), they therefore suggest that the Applicant provides this information into the examination as soon as possible. NRW (A) highlighted that they are not advising that the HRA be based solely on the upper end of the % displacement and % mortality rates advised (e.g. 70% displacement and 10% mortality for auks), but advises that in order to account for the large degree of uncertainty regarding displacement rates and effects that the assessments consider a range of potential rates and effects rather than focussing on a single figure as the Applicant has done in their HRA application documents.	This technical note (section 1.5.1) includes presentation of displacement impacts apportioned to designated sites for the full range of displacement and mortality rates recommended by the SNCBs (including those outlined in REP1-056.88 to REP1-056.101) to aid the SNCB's interpretation of the apportioned impacts on individual SPAs.
JNCC written representations (Appendix to Response to WRs: JNCC (REP2-081); see row REP-066.2)	JNCC notes that some aspects of JNCC advice also appear to have been taken on board in some circumstances but not in others, despite agreement during pre-application meetings and correspondence. For instance, specific displacement rates being used in the HRA and EIA.	
JNCC written representations (Appendix to	JNCC do not agree that single values of displacement and mortality should be used for analysis of population impacts. JNCC advises	

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Response to WRs: JNCC (REP2-081(; REP1-066.39 - REP1-066.41)	that a range of displacement mortality values are taken through to the assessment of population impacts (SNCBs, 2022).	
Meeting with NRW, the JNCC and Natural England on 29 August 2024	Request from Natural England for the project to consider the updated reference populations and parameters in the NRW and Natural England interim advice note (advice letter provided to Morgan Generation Assets by Natural England and NRW on 21 March 2024, post submission of the Mona Offshore Wind Project DCO application), particularly in relation to great black-backed gull.	The Applicant has used the updated reference population for great black-backed gull within Table 1-6 to define the annual population. See paragraphs 1.1.2.5 to 1.1.2.10 in Offshore Ornithology Cumulative Effects Assessment and In-combination Gap-filling Historical Projects Technical Note (S_D3_19 F02) submitted at Deadline 4 for further information.
NRW's written feedback following a meeting on 9 September 2024 (received via email on 18 September 2024)	NRW (A) advised that the presentation of apportioned impact should include the following: – age class apportioning as well as apportioning value to colony. – the mortality rate and data source (assume will be based on adult survival rates from Horswill and Robinson 2015)). – the figures for the annual summed total impacts as well as per season.	These parameters are presented for each species and SPA in section 1.5.1 and section 1.5.2.
	NRW (A) advise that where the Mona Offshore Wind Project's predicted impact equates to greater than 0.05% baseline mortality at any point within the advised range of displacement and mortality rates, then the site/feature combination is taken through to in-combination assessment and not just based on the Applicant's identified % displacement and % mortality rates, as has been currently done.	The in-combination assessments based on the advised range of displacement and mortality rates are presented in Section 1.5.3.
	~~NRA~~NRW (A) suggest for the apportioned impacts (when using the full range of displacement scenarios) the presentation of tables showing predicted impacts across range and highlighting where within the range 1% baseline mortality is exceeded.	The Applicant notes that this could be useful if multiple scenarios are being presented, however this note focuses on the range of displacement and mortality rates requested by the SNCBs. The worst-case scenario is presented in-combination and within the PVAs which show no detrimental impact on the assessed populations and therefore the tables are not presented as do not add additional clarity to this point.
JNCC's written feedback following a meeting on 4 September 2024 (received via email on 10 September 2024)	The JNCC recommends that the presentation of collision impacts within the EIA includes the following information: – Site – Population – Baseline mortality – Mean collision mortality (lower confidence interval (LCI) and upper	These parameters are presented for each species in section 1.4.1.

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	confidence interval (UCL)) (per bio-season) – Increase in baseline mortality mean (LCL, UCL) (per bio-season)	
	The JNCC recommends that the presentation of apportioned displacement impacts within the HRA includes the following information: - Site - Colony count (Year) - Baseline mortality - Un-apportioned mortalities (per bio-season) - Age-class apportioning (per bio-season) - Apportioning value (per bio-season) - Impact range (per bio-season) - Increase in baseline mortality (per bio-season)	These parameters are presented for each species and SPA in section 1.5.1 for displacement impacts. The un-apportioned mortalities are presented fully within Table 1-3 and repeated before each results table in section 1.5.1.
	The JNCC recommend the presentation of apportioned collision impacts within the HRA includes the following information: - Site - Colony count (year) - Baseline mortality - Un-apportioned mean collision mortality (LCL, UCL) (per bio-season) - Age-class apportioning (per bio-season) - Apportioning value (per bio-season) - Apportioned mean collision mortality (LCL, UCL) (per bio-season) - Increase in baseline mortality mean (LCL, UCL) (per bio-season)	These parameters are presented for each species and SPA in section 1.5.2. The un-apportioned mortalities are presented fully within Table 1-3 and repeated before each results table in section 1.5.2.
JNCC's written feedback received 24 October 2024 following meeting on 14 October 2024	JNCC requested that the gap-filled projects be included within the in-combination assessments.	The Applicant has updated this note to include the in-combination assessments within section 1.5.3.
	JNCC provided multiple worked examples of how they tried to calculate the apportioned impact to individual SPAs but were unable to replicate the same apporioned impacts as the Applicant.	The Applicant has provided revised in-combination tables in section 1.5.3 which provides JNCC with all the required parameters to enable them to replicate the Applicant's predicted impacts (un-apportioned and apportioned) to each SPA for all species considered using the Applicant's methods as described within section 1.3.4.

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	The JNCC advised that stable-age structures should not be used within the in-combination assessment. The JNCC requested that where an individual can not be identfieid easily to a specific age-class, then it should be considered an adult.	The Applicant has taken the advice of the JNCC and NRW for the Mona Offshore Wind Project alone assessment (as done within Volume 2, Chapter 5: Offshore Ornithology (F2.5 F03)) and has considered all birds not able to be identified to a specific age as adults. However, with respect to the in-combination assessment, when considering the predicted impacts of the 17 offshore wind projects, it is not considered proportionate to assume that all individuals at all sites will be adults. This approach would hyperinflate the impact which is an overly precautionary presumption and not based on any scientific evidence. The Applicant maintains that using the stable-age structure within the in-combination assessments has precedent as has been used within multiple other consented offshore wind farm applications and The Crown Estates' Plan Level HRAs (both Round 4 and Round 5) and is produced using the best available evidence (Furness, 2015).
	JNCC requested an explanation as to why the Mona Offshore Wind Project's alone impacts differ from the alone assessment and the in-combination assessment.	The Applicant can confirm that the Mona Offshore Wind Project alone assessment impacts differ between the alone assessment and the in-combination. The alone assessment methodology and in-combination assessment methodology is fully explained within sections 1.3.3 and 1.3.4, respectively. The rationale for the differences is also discussed within paragraph 1.5.3.3.
JNCC and NRW (A) verbal feedback received in meeting 29 October 2024	The JNCC repeated their written advice, with NRW (A) confirming they are of the same opinion.	The Applicant welcomes JNCCs and NRW (A)'s comments, and refers to the specific responses above.

~~1.1.1.5 In response to the Examining Authority's Rule 17 (PD-012) letter and NRW's and the JNCC's relevant representations (RR-011 and RR-033, respectively) and written representations (REP1-056; REP1-066/REP1-067, respectively), the Applicant has sought to present the EIA and HRA requested information in accordance with the SNCBs' advice alongside the Applicant's identified approach (based on an assessment of available evidence and those approaches used by other recently consented offshore wind farms) for determining impacts in the Environmental Statement and the HRA.~~

~~1.1.1.6 This technical note brings together the key assessment information provided in the development consent order (DCO) application, with clear signposting to the source of this information and where further supporting details can be found within the application documents. In addition, this technical note provides supporting information~~

~~requested in NRW's and the JNCC's representations made in the examination of the Mona Offshore Wind Project to date.~~

~~1.1.1.7 This supporting information is intended to give the SNCBs the information required to provide confidence that the EIA and HRA conclusions are robust. It is also intended to provide sufficient understanding of the potential impacts of the Mona Offshore Wind Project (alone and cumulatively/in-combination with other plans and projects) for the SNCBs to confirm their position with respect to a conclusion of no significant effects and AEoSI beyond reasonable scientific doubt.~~

~~As outlined in Table 1.1 above, the Applicant has engaged with the JNCC and NRW on the scope and presentation of this supporting information note to ensure this sufficiently addresses the SNCBs concerns and the Examining Authority's Request for Further Information – Rule 17 (PD-012/PD-012a).~~

1 1 [illegible]

1.1.2.1 The Applicant has worked to produce the numeric outputs requested by NRW(A) and the JNCC in relation to the ornithological assessments for the Mona Offshore Wind Project.

1.1.2.2 Available evidence suggests that the upper ranges of displacement and mortality rates (e.g. 70% displacement and 10% mortality) may be excessively precautionary (e.g. MacArthur Green, 2023; APEM, 2022; Peschko *et al*., 2020; Vanermen *et al*., 2016; Leopold *et al*., 2013). The use of both high levels of displacement and high levels of mortality ~~results~~result in unrealistic outputs that are not supported by the available evidence. Assessments should be pragmatic and robust, but this is being compromised by the introduction of high levels of precaution and using of numbers at the most conservative end of the spectrum (e.g. 70% displacement and 10% mortality). This then compounds through addition, multiplication and modelling to produce modelling outputs that are unrealistic. Given this, the Applicant feels that the viewing of the numbers in this document alone should be balanced with biological considerations and realistic scenarios.

1.1.2.3 The Applicant maintains that a scenario of 50% displacement and 1% mortality is both robust and precautionary for the purposes of the assessment. The Applicant does not consider that the most conservative scenarios presented (i.e. 70% displacement and 10% mortality rate) are a realistic worst-case scenario as this level of impact has not been evidenced at previous offshore wind projects such as Beatrice (reviewed by APEM, 2022). The Applicant also notes that in their written representations, both the JNCC and NRW have stated that they would not base their consideration of impact solely on the top of the range of potential impact.

1.1.2.4 Within the tables presented within this document the impacts have been rounded to one or two decimal places and therefore the 'annual total' shown within the table may not match equally to the sum of the bioseasonal impacts or individual projects due to this rounding.

1 1 [illegible]

1.1.3.1 This technical note is set out in the following way, which, in the Applicant's view and following the advice from NRW(A) and the JNCC, provides the flow of information that the SNCBs require to have confidence in the assessments presented. This includes:

- Section 1.1 provides the background to this technical note, its purpose and the consultation the Applicant has done to provide the SNCBs with the confidence that this technical note will provide them the clarity they require.

- Section 1.2 provides a~~ brief~~ summary of what has been included within the submitted EIA and HRA documents and where there is deviation from what the SNCBs have requested to be included. Section 1.2 also clarifies what is presented within the results section (section 1.4).
- Section 1.3 provides information which can be found in the application documents but has been represented within this technical note to show the flow of information required for the updated HRA apportioning. The following sections are included:
    - Section 1.3.2 presents the impacts from the displacement and collision assessments. This information is taken from Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report (~~REP2-018~~F6.5.2_F03) and Volume 6, Annex 5.3: Offshore Ornithology Collision Risk Modelling Technical Report (REP2-020), respectively.
    - Section 1.3.3 presents the seasonal age-class apportioning taken from the site-specific DAS for the Mona Offshore Wind Project~~.~~ which was used within the Mona Offshore Wind Project alone assessment. This information is taken from Volume 6, Annex 5.5: Offshore Ornithology Apportioning Technical Report (REP2-022).
    - Section ~~1.3.3~~1.3.4 presents how the seasonal age-class apportioning has been undertaken for the in-combination and cumulative assessments.
    - Section 1.3.4.1 presents the baseline mortality rates required for each species. This information is taken from Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5 F03).
    - Section ~~1.3.5~~1.3.6 provides the method by which the SPA apportioning values ~~for each SPA~~ have been calculated. This information is taken from Volume 6, Annex 5.5: Offshore Ornithology Apportioning Technical Report (REP2-022). The SPA and species-specific apportioning values are presented in section 1.4.
- Section 1.4 provides the results of presenting the range of impacts from upper and lower confidence intervals at the EIA scale.
- Section 1.5 ~~represents~~presents the apportioning results for all SPAs which are included within Appendix A of the HRA Stage 1 Screening Report (REP2-012). Section 1.5 replicates the tables from Appendix A of the HRA Stage 1 Screening Report (REP2-012) but with the added range of impacts as requested by the SNCBs.
    - Section 1.5.1 presents the displacement tables;
    - Section 1.5.2 presents the collision tables; and
    - Section 1.5.3 presents the in-combination tables (if required).
- Section 1.6 provides the PVAs which are required for the project alone or the project in-combination.
- Section 1.7 provides the conclusions when considering the full range of predicted impacts on species and undertaking PVAs when impacts predicted resulted in an increase in baseline mortality of >1%.

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1.2.1 [illegible]

1.2.1.1 The full range (1 to 100% for both displacement and mortality rates) of predicted displacement impacts are presented within the individual species matrix tables for the project alone within Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report (~~REP2-018~~F6.5.2 F03).

1.2.1.2 Within these matrix tables, the SNCBs advised displacement and mortality rates (Table 1-2) are included. The increase in mortality when using the ~~SNCBs~~SNCB's advised displacement and mortality rates range are taken through to assessment in Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5 F03) for both the project alone assessment and the cumulative assessment. The Applicant was able to conclude no significant impact alone and cumulatively when using the full range of displacement and mortality rates for all species included in the assessment (Table 5.116 of Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5 F03)).

1.2.1.3 However, the proportion of the population which may undergo displacement and mortality presented in the HRA Stage 1 Screening (REP2-012) is based on the Applicant's identified displacement and mortality rates (50% displacement and 1% mortality for Atlantic puffin, black-legged kittiwake, common guillemot, Manx shearwater and razorbill and 70% displacement and 1% mortality for northern gannet). The values used within the Applicant's document replicated those adopted by recently consented windfarms in their consent applications.

1.2.1.4 The JNCC and NRW disagree with the use of the single value estimates in the HRA Stage 1 Screening (REP2-012) and the HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010) for analysis of likely significant effects and AEoSI (Table 1-1).

1.2.1.5 Therefore, the Applicant has presented further supporting information in this technical note and tabulated the apportioned impacts to SPAs in section 1.5.1 using the range of displacement and mortality values advised by SNCBs (as shown in Table 1-2).

1.2.1.6 The predicted displacement mortalities presented at application within Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report (~~REP2-018~~F6.5.2 F03) are summarised in Table 1-3 using the range of displacement and mortality rates from Table 1-2. Table 1-9 to Table 1-13 present the apportioned displacement impacts for each SPA considered within the HRA Stage 1 Screening Report (REP2-012).

1.2.1.7 It should be noted that for the auk species (specifically common guillemot and razorbill) an alternative approach of 70% displacement and 2% mortality is presented alongside the minimum impact (30% displacement and 1%) and the maximum impact (70% displacement and 10% mortality), as these parameters have recently been accepted and used by the Secretary of State within the HRAs for Hornsea Two/Three/Four, East Anglia One North, East Anglia Two, Norfolk Boreas, Norfolk Vanguard, Sheringham Shoal and Dudgeon Extension Projects (SEP and DEP).

1.2.1.8 The JNCC was the only SNCB involved in the Expert Working Groups for the Mona Offshore Wind Project that requested the Applicant provide a displacement assessment for black-legged kittiwake. Both NRW(A) and Natural England have stated there is insufficient evidence to undertake a displacement assessment for black-legged kittiwake. As requested by the JNCC, a displacement assessment for black-legged kittiwake is included in this technical note. The evidence that was presented alongside the request for 30-70% displacement and 1-10% mortality (specifically, Peschko *et al*., 2020; Vanermen *et al*., 2016; Leopold *et al*., 2013 within D.3.14 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)) does not support the displacement and mortality rates suggested, with very high variability around the impacts (even some positive effects).

1.2.1.9 Therefore, for black-legged kittiwake, the Applicant is presenting an alternative approach of 30% displacement and 3% mortality which is in line with NatureScot guidance (NatureScot, 2023) and used for recent assessments within Scottish waters (e.g. Ossian Offshore Wind Farm and West of Orkney Wind Farm). Only if the in-combination impact surpasses a >1% increase in baseline mortality when considering 30% displacement and 3% mortality, will a PVA then be presented (section 1.6).

	basis of the Applicant's		and basis of the Applicant's EIA at			
		R		R		R
Common guillemot	30 to 70%	30 to 70 %	1 to 10%	1 to 10%	JNCC did not disagree with using these figures as presented in D.3.9 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042).	NRW confirmed that 30-70% displacement and 1-10% mortality for auks following EWG3 in November 2022 (D.4.3 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)).
Razorbill	30 to 70%	30 to 70 %	1 to 10%	1 to 10%		
Atlantic puffin	30 to 70%	30 to 70 %	1 to 10%	1 to 10%		
Black-legged kittiwake	30 to 70%		1 to 10%		JNCC requested 30-70% displacement and 1-10% mortality in June 2022 (D.3.14 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)).	NRW confirmed that no kittiwake assessment for displacement is required due to an insufficient evidence base (REP1-056).
Manx shearwater	30 to 70%	30 to 70%	1 to 10%	1 to 10%	JNCC initially requested 1-10% displacement and 1-10% mortality in June 2022 (D.3.14 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)). This then changed to 'whole matrices' (D.4.4 in Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042))	NRW initially stated '*there is currently no evidence for any particular range of displacement rates (1-10%, 30-70% or any other) for this species from offshore wind farms. NRW (A) welcome that the whole matrices will be presented in the PEIR.* (D.4.3 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042). Within their Written Representations (REP1-056), it was requested that 30-70% displacement and 1-10% mortality (as with auks) be used (REP1-056).

[illegible]	[illegible] basis of the Applicant's [illegible]		[illegible] and basis of the Applicant's EIA at [illegible]		[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Northern gannet	60 to 80%	1 to 10%	1 to 10%	1 to 10%	JNCC did not disagree with using these figures as presented in D.3.9 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)	NRW confirmed that 60-80% displacement and 1-10% mortality for auks following EWG3 in November 2022 (D.4.3 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)) was appropriate.

1[illegible] [illegible]

1.2.2.1 Whilst the range of predicted collision impacts using 95% lower confidence interval (LCI) and upper confidence intervals (UCI) are presented within Volume 6, Annex 5.3: Offshore Ornithology Collision Risk Modelling Technical Report (REP2-020), the estimated increase in baseline mortalities in Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5 F03) is solely based on the mean collision mortality.

1.2.2.2 Similarly to displacement, the collision mortalities presented in the HRA Stage 1 Screening (REP2-012) also used a single value estimate (mean collision mortality).

1.2.2.3 The JNCC and NRW disagree with the use of single value estimates in the HRA Stage 1 Screening (REP2-012) and HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010) for analysis of impacts on SPAs (Table 1-1).

1.2.2.4 Therefore, as recommended by the JNCC and NRW, the Applicant has presented further supporting information in this technical note. The range of predicted collision impacts presented at application (within Volume 6, Annex 5.3: Offshore Ornithology Collision Risk Modelling Technical Report (REP2-020)), at the EIA population scale, including the LCI and UCI, is presented in Table 1-6. The Applicant has populated the apportioned impacts to SPAs using the LCI and UCI in ~~Table 1-13~~Table 1-13 to Table 1-18.

1[illegible] [illegible]

1.3.1.1 The following information is required to present impacts using a range-based approach including the apportioned impacts on SPAs (as presented within Appendix A of the HRA Stage 1 Screening Report (REP2-012)).

1[illegible] [illegible]

1.3.2.1 Table 1-3 presents the project alone predicted impacts from collision, displacement and collision and displacement combined (where required) for each species considered within this technical note. The information is taken from Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report (~~REP2-018~~F6.5.2 F03) and Volume 6, Annex 5.3: Offshore Ornithology Collision Risk Modelling Technical Report (REP2-020), respectively.

1.3.2.2 The predicted mortalities from displacement are presented for the Applicant's identified rates (50% displacement and 1% mortality), followed by the SNCBs advised range of displacement and mortality rates in brackets (see Table 1-2 for further information).

1.3.2.3 The modelled mortalities from collisions are presented with the mean value outside the brackets and the lower confidence interval (LCI) and ~~UCIs~~upper confidence interval (UCI) in brackets.

1.3.2.4 These predicted ~~mortalities~~mortality estimates feed into the assessment tables presented in section 1.5.1 for displacement and section 1.4.1 and 1.5.2 for collisions.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Common guillemot	Breeding (March to July)	~~n/a~~-	~~n/a~~-	21 (13 to 295)	21 (13 to 295)	21 (13 to 295)
	Non-breeding (August to February)	~~n/a~~-	~~n/a~~-	19 (11 to 263)	19 (11 to 263)	19 (11 to 263)
Razorbill	Pre-breeding migration (January to March)	~~n/a~~-	~~n/a~~-	10 (6 to 135)	10 (6 to 135)	10 (6 to 135)
	Breeding (April to July)	~~n/a~~-	~~n/a~~-	0 (0 to 6)	0 (0 to 6)	0 (0 to 6)
	Post-breeding migration (August to October)	~~n/a~~-	~~n/a~~-	0 (0 to 6)	0 (0 to 6)	0 (0 to 6)
	Non-breeding (November to December)	~~n/a~~-	~~n/a~~-	2 (1 to 29)	2 (1 to 29)	2 (1 to 29)
Atlantic puffin	Breeding (April to August)	~~n/a~~-	~~n/a~~-	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)
	Non-breeding (September to March)	~~n/a~~-	~~n/a~~-	0 (0 to 2)	0 (0 to 2)	0 (0 to 2)
Northern gannet (collisions corrected for 70% macro avoidance[4])	Pre-breeding (December to February)	0 (0 to 0)	~~n/a~~-	0 (0 to 2)	0 (0 to 2)	~~n/a~~-
	Breeding (March to September)	1 (0 to 4)	~~n/a~~-	2 (2 to 20)	3 (2 to 24)	~~n/a~~-
	Post-breeding (October to November)	0 (0 to 0)	~~n/a~~-	0 (0 to 5)	0 (0 to 5)	~~n/a~~-
Northern fulmar	Pre-breeding (December)	0 (0 to 0)	~~n/a~~-	~~n/a~~-	0 (0 to 0)	~~n/a~~-

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Breeding (January to August)	0 (0 to 2)	~~n/a~~-	~~n/a~~-	0 (0 to 2)	~~n/a~~-
	Post-breeding (September to October)	0 (0 to 0)	~~n/a~~-	~~n/a~~-	0 (0 to 0)	~~n/a~~-
	Non-breeding (November)	0 (0 to 0)	~~n/a~~-	~~n/a~~-	0 (0 to 0)	~~n/a~~-
Black-legged kittiwake	Pre-breeding (January to February)	9 (3 to 18)	3 (1 to 5)	3 (2 to 40)	12 (5 to 58)	6 (3 to 45)
	Breeding (March to August)	16 (6 to 32)	5 (2 to 9)	4 (2 to 51)	20 (8 to 83)	9 (4 to 60)
	Post-breeding (September to December)	8 (3 to 18)	3 (1 to 5)	3 (2 to 39)	12 (5 to 57)	6 (3 to 44)
Herring gull	Breeding (March to August)	0 (0 to 0)	0 (0 to 0)	~~n/a~~-	0 (0 to 0)	0 (0 to 0)
	Non-breeding (September to February)	1 (1 to 3)	1 (0 to 3)	~~n/a~~-	1 (1 to 3)	1 (0 to 3)
Lesser black-backed gull	Pre-breeding (March)	1 (0 to 2)	1 (0 to 1)	~~n/a~~-	1 (0 to 2)	1 (0 to 1)
	Breeding (April to August)	0 (0 to 1)	0 (0 to 1)	~~n/a~~-	0 (0 to 1)	0 (0 to 1)
	Post-breeding (September to October)	0 (0 to 0)	0 (0 to 0)	~~n/a~~-	0 (0 to 0)	0 (0 to 0)
	Non-breeding (November to February)	1 (0 to 2)	1 (0 to 1)	~~n/a~~-	1 (0 to 2)	1 (0 to 2)
Great black-backed gull	Breeding (March to August)	2 (1 to 3)	0 (0 to 1)	~~n/a~~-	2 (1 to 3)	0 (0 to 1)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Non-breeding (September to February)	3 (1 to 7)	0 (0 to 1)	~~n/a~~-	3 (1 to 7)	0 (0 to 1)
Manx shearwater	Pre-breeding (March)	0 (0 to 0)	~~n/a~~-	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)
	Breeding (April to August)	0 (0 to 0)	~~n/a~~-	6 (4 to 87)	6 (4 to 87)	6 (4 to 87)
	Post-breeding (September to October)	0 (0 to 0)	~~n/a~~-	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)

[1] Species-group avoidance rates are 0.9928 for black-legged kittiwake, northern fulmar, northern gannet and Manx shearwater and 0.9939 for great black-backed gull, herring gull and lesser black-backed gull. The number outside the brackets is the mean predicted impact with the LCI and UCI presented in the brackets.

[2] Species-specific avoidance rates are 0.9952 for herring gull, 0.9954 for lesser black-backed gull, 0.9979 for black-legged kittiwake and 0.9991 for great black-backed gull. The number outside the brackets is the mean predicted impact with the LCI and UCI presented in the brackets.

[3] The range of displacement rates used (within the brackets) is presented in Table 1-2. This is 30-70% displacement and 1-10% mortality for Atlantic puffin, common guillemot, razorbill, black-legged kittiwake and Manx shearwater and 60-80% displacement and 1-10% mortality for northern gannet. The figure outside the brackets uses the Applicant's identified rate, which is 50% displacement and 1% mortality for Atlantic puffin, common guillemot, razorbill, black-legged kittiwake and Manx shearwater and 70% displacement and 1% mortality for northern gannet.

[4] The use of 70% macroavoidance has been agreed with the SNCBs (D3.13 of the Technical Engagement Plan Appendices – Part 1 (A to E) (APP-042)). The 70% macroavoidance has been applied to the inputted density estimates.

1 [illegible]

1.3.3.1 The age-class apportioning values for the Mona Offshore Wind Project are presented in Table 1.4 of Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (REP2-022). The Applicant has also submitted the Offshore Ornithology Apportioning Clarification Note (S_D4_10) into Examination at Deadline 4. The Applicant confirms that during the breeding and non-breeding season, age-class was calculated from site-specific DAS, or if age-class identification was not possible from site-specific DAS then it was presumed that 100% of birds were adults.

1.3.3.2 The age-class apportioning values are represented in Table 1-4 to ensure a clear flow information and allow subsequent calculations of apportioned impacts from the Mona Offshore Wind Project in section 1.5.

1.3.3.3 The age-class apportioning values feed into the assessment tables presented in section 1.5.1 for displacement and section 1.4.1 and 1.5.2 for collisions.

[illegible] 1-[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
Atlantic puffin	Breeding (March to July)	100%	0%
	Non-breeding (August to February)	100%	0%
Common guillemot	Breeding (March to July)	100%	0%
	Non-breeding (August to February)	100%	0%
Razorbill	Breeding (April to July)	100%	0%
	Non-breeding (August to March)	100%	0%
Northern gannet	Breeding (March to September)	93.58%	6.42%
	Non-breeding (October to February)	96.43%	3.57%
Black-legged kittiwake	Breeding (March to August)	95.36%	4.64%
	Non-breeding (September to February)	92.01%	7.99%
Herring gull	Breeding (March to August)	80.00%	20.00%
	Non-breeding (September to February)	75.61%	24.39%
Lesser black-backed gull	Breeding (April to August)	81.82%	18.18%
	Non-breeding (September to March)	86.96%	13.04%
Great black-backed gull	Breeding (March to August)	83.33%	16.67%
	Non-breeding (September to February)	70.49%	29.51%
Manx shearwater	Breeding (April to August)	100%	0%
	Non-breeding (September to March)	100%	0%

1 [illegible]

1.3.4.1 Within the cumulative and in-combination assessments the Applicant has used the proportions of immatures to adults within the Appendix A tables of Furness (2015) for all projects during the non-breeding season. As the impact occurs over a large spatial scale it is proportionate to undertake an assessment using these proportions. Furness (2015) covers the regional scale assessment and therefore these proportions are appropriate as they also cover the wider region. As presented within the Offshore

Ornithology Apportioning Clarification Note (S_D4_10), using the proportions of adults to immatures and a site apportioning value derived from the total adult population of a site divided by the total adult population of the BDMPS is in line with SNCB guidance on non-breeding season apportioning.

1.3.4.2 The SNCBs advised that when considering the age-class apportioning during the breeding season for all projects a precautionary approach would be to presume all birds are adults. However, the Applicant's preferred and more scientifically robust approach is to use the stable-age structure from Furness (2015). Use of the stable age structure from Furness (2015) has been used in multiple other consented offshore wind project assessments (e.g Awel y Môr, multiple Hornsea projects etc.), and is the basis for the Crown Estates' Round 4 Plan Level HRA.

1.3.4.3 The Applicant agrees with the SNCBs that the use of stable-age structure is not representative over the spatial scale of a single offshore wind project. However, as the spatial scale covered by the 17 projects within the in-combination and cumulative assessments covers a similar extent as the entire BDMPS (which Furness (2015) defined).

1.3.4.4 Stable-age structures have recently been used by both Natural England and NRW within their interim advice regarding demographic rates, EIA scale mortality rates and reference populations for use in offshore wind impact assessments using a similar method to Furness (2015) and therefore there is clear precedent for their use.

1.3.4.5 The Applicant does not consider it appropriate at this scale to consider all birds present at each site are adults within the in-combination and cumulative assessments. Where 100% of birds to be considered adults this would lead to inflated impacts, which provide no additional clarity on the risk to a specific site. No conclusion could be drawn as to the true, realistic impact on a population where this hyperinflated scenario is presented. Therefore, the Applicant has followed its preferred approach which is in line with all other offshore wind projects.

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~~1.3.4.1~~1.3.5.1 Whilst the baseline mortality rates were presented in the application in Table 5.15 of Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5 F03), the Applicant has again presented these rates in this supporting information technical note. This is to ensure a clear flow information and to allow for calculations of subsequent apportioned impacts in section 1.5.

~~1.3.4.2~~1.3.5.2 These baseline mortality rates feed into the assessment tables presented in section 1.5.1 for displacement and section 1.4 and 1.5.2 for collisions.

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Common guillemot	0.560	0.792	0.917	0.939	0.939	~~N/A~~-	0.939	0.061
Razorbill	0.630	0.630	0.895	0.895	~~N/A~~-	~~N/A~~-	0.895	0.105
Manx shearwater	0.870	0.870	0.870	0.870	0.870	~~N/A~~-	0.870	0.130
Northern gannet	0.424	0.829	0.891	0.895	0.895	~~N/A~~-	0.919	0.081
Black-legged kittiwake	0.790	0.854	0.854	0.854	~~N/A~~-	~~N/A~~-	0.854	0.146
European herring gull	0.798	0.834	0.834	0.834	0.834	~~N/A~~-	0.834	0.166
Lesser black-backed gull	0.820	0.885	0.885	0.885	0.885	~~N/A~~-	0.885	0.115
Great black-backed gull	0.798	0.930	0.930	0.930	0.930	~~N/A~~-	0.930	0.070

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~~1.3.5.1~~1.3.6.1 Whilst the apportioning values for each site and colony are presented in Volume 6, Annex 5.5: Offshore ornithology apportioning technical report (REP2-022), the Applicant has presented these values in this technical note for each SPA and species considered. This is to ensure a clear flow of information and to allow for calculations of apportioned impacts.

~~1.3.5.2~~1.3.6.2 The apportioning values for each species, from each site during each bio-season are presented within the respective results table within section 1.5.

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1.4.1.1 Table 1-6 provides the UCI and LCI associated with the mean collision impacts which were presented in Volume 6, Annex 5.3: Offshore Ornithology Collision Risk Modelling Technical Report (REP2-020) but not ~~subequently~~subsequently assessed within Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5_F03) for the Mona Offshore Wind Project alone.

1.4.1.2 The population sizes presented Table 1-10 represent the smaller of the two population options, either the ‘Foraging range breeding season population’ or ‘Regional breeding season population’; see Table 5.14 of Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5_F03) for the differences between the two populations. The SNCBs advised that the ‘Regional breeding season population’ be presented; however it was agreed during the EPP that the smaller of the ‘foraging range’ or ‘regional’ populations could be used as a precaution. The Applicant can confirm that the smaller and, therefore most precautionary population is presented within Table 1-6. Whilst for Manx shearwater and northern gannet, the smallest population is the ‘Regional breeding season population’, for the rest of the species the ‘Foraging range breeding season population’ is the smallest population (Table 1-6).

1.4.1.3 Great black-backed gull during the breeding season is the only species which surpasses the >1% increase in baseline mortality (highlighted in bold text and yellow cell colour in Table 1-6) and therefore, a PVA has been presented within section 1.4.2.

1.4.1.4 When considering the range of LCI and UCI, the conclusions presented within Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5 F03) remain valid with no change in magnitude of effect predicted, even when assessing the UCI, and therefore no change to the overall conclusions.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Northern gannet (collisions corrected for 70% macro avoidance)	Pre-breeding (December to February)	661,888	127,744	0.13 (0.04 to 0.33)	~~n/a~~-	0.000% (0.000% to 0.000%)	~~n/a~~-
	Breeding (March to September)	522,888	~~106,707~~1000,917	1.42 (0.28 to 3.94)	~~n/a~~-	0.001% (0.000% to 0.004%)	~~n/a~~-
	Post-breeding (October to November)	545,954	105,369	0.15 (0.03 to 0.39)	~~n/a~~-	0.000% (0.000% to 0.000%)	~~n/a~~-
	Annual	661,888	127,744	1.70 (0.34 to 4.66)	~~n/a~~-	0.001% (0.000% to 0.004%)	~~n/a~~-
Northern fulmar	Breeding (January to August)	828,194	183,031	0.32 (0.00 to 1.94)	~~n/a~~-	0.000% (0.000% to 0.001%)	~~n/a~~-
	Pre-breeding (December)	54,403	12,023	0.03 (0 to 0.17)	~~n/a~~-	0.000% (0.000% to 0.001%)	~~n/a~~-
	Post-breeding (September to October)	828,194	183,031	No predicted collisions			
	Non-breeding (November)	556,367	122,957	0.01 (0.00 to 0.05)	~~n/a~~-	0.000% (0.000% to 0.000%)	~~n/a~~-
	Annual	828,194	183,031	0.36 (0.00 to 2.16)	~~n/a~~-	0.000% (0.000% to 0.001%)	~~n/a~~-
Black-legged kittiwake	Pre-breeding (January to February)	691,526	107,878	8.74 (3.09 to 18.15)	3.09 (0.93 to 5.44)	0.008% (0.003% to 0.017%)	0.003% (0.001% to 0.005%)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Breeding (March to August)	156,679	24,442	15.52 (5.68 to 31.60)	4.66 (1.70 to 9.48)	0.063% (0.023% to 0.129%)	0.019% (0.007% to 0.039%)
	Post-breeding (September to December)	911,586	142,207	8.41 (2.96 to 17.53)	2.52 (0.89 to 5.26)	0.006% (0.002% to 0.012%)	0.002% (0.001% to 0.004%)
	Annual	911,586	142,207	32.67 (11.73 to 67.27)	9.80 (3.52 to 20.18)	0.023% (0.008% to 0.047%)	0.007% (0.002% to 0.014%)
Herring gull	Breeding (March to August)	31,214	5,338	0.03 (0.01 to 0.06)	0.02 (0.1 to 0.05)	0.001% (0.000% to 0.001%)	0.000% (0.002% to 0.001%)
	Non-breeding (September to February)	173,299	29,634	1.48 (0.50 to 3.13)	1.18 (0.40 to 2.51)	0.005% (0.002% to 0.011%)	0.004% (0.001% to 0.008%)
	Annual	173,299	29,634	1.51 (0.51 to 3.91)	1.20 (0.41 to 2.55)	0.005% (0.002% to 0.013%)	0.004% (0.001% to 0.009%)
Lesser black-backed gull	Pre-breeding (March)	163,304	19,760	0.83 (0.26 to 1.94)	0.64 (0.20 to 1.49)	0.004% (0.001% to 0.010%)	0.003% (0.001% to 0.008%)
	Breeding (April to August)	109,785	13,284	0.33 (0.10 to 0.81)	0.25 (0.08 to 0.62)	0.002% (0.001% to 0.006%)	0.002% (0.001% to 0.005%)
	Post-breeding (September to October)	163,304	19,760	No predicted collisions			
	Non-breeding (November to February)	41,159	4,980	0.76 (0.23 to 1.69)	0.58 (0.18 to 1.30)	0.015% (0.005% to 0.034%)	0.012% (0.004% to 0.026%)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Annual	163,304	19,760	1.92 (0.59 to 4.43)	1.47 (0.45 to 3.40)	0.010% (0.003% to 0.022%)	0.007% (0.002% to 0.017%)
Great black-backed gull	Breeding (March to August)	1,496	142	1.67 (0.59 to 3.48)	0.25 (0.09 to 0.52)	[illegible]	0.176% (0.063% to 0.366%)
	Non-breeding (September to February)	17,742	1,685	3.16 (1.07 to 6.66)	0.47 (0.16 to 1.00)	0.188% (0.064% to 0.395%)	0.028% (0.009% to 0.059%)
	Annual	17,742	1,685	4.83 (1.66 to 10.13)	0.72 (0.25 to 1.52)	0.287% (0.099% to 0.601%)	0.043% (0.015% to 0.090%)
Manx shearwater	Pre-breeding (March)	1,580,895	205,516	No predicted collisions			
	Breeding (April to August)	1,821,544	236,800				
	Post-breeding (September to October)	1,580,895	205,516				
	Annual	2,372,485	308,423				

1 [illegible]

1.4.2.1 When considering the mean and UCI of great black-backed gull collisions (Table 1-6~~),~~), and the smaller ‘foraging range’ breeding season population, the increase in baseline mortality was >1% during the breeding season, and therefore, a PVA was undertaken (Table 1-7).

1.4.2.2 The PVA resulted in a predicted impact, which indicates that the median growth rate (and 95% confidence intervals) continues to be >1, and therefore, the population is predicted to increase in size under these modelled parameters for both impact scenarios (Table 1-7~~).~~). As the PVA was run density independently, the counterfactual of growth rate (CGR) is a more useful metric than counterfactual of population size (CPS).

1.4.2.3 Given that the population is predicted to increase in size and the growth rate is not materially impacted when considering the mean and UCI collision estimates, there is no change to the magnitude of the impact on great black-backed gull during the breeding season. Therefore, the conclusions presented within Volume 2, Chapter 5: Offshore Ornithology (~~REP2-016~~F2.5 F03) remain valid.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	4,119	175%	1.1347	1.1171	1.1526	-	-
2030	Mean collisions	4,116	175%	1.1335	1.1155	1.1523	0.~~9990~~999	0.~~9988~~999
2030	UCI collisions	4,108	175%	1.1317	1.1141	1.1495	0.~~9976~~998	0.~~9974~~997
2065	Baseline	345,296	22,981%	1.1349	1.1339	1.1359	-	-
2065	Mean collisions	330,737	22,008%	1.1335	1.1324	1.1346	0.~~9579~~958	0.~~9988~~999
2065	UCI collisions	315,022	20,958%	1.1320	1.1309	1.1331	0.~~9124~~912	0.~~9974~~997

1 [illegible]

1 [illegible]

1.5.1.1 For ease of calculating the apportioning impact, when using the SNCB-advised displacement and mortality rates, the following steps have been taken using common guillemot from Cape Wrath SPA during the non-breeding season as an example. This uses the information presented in section 1.3, which replicates previously submitted data that can be found in the relevant application documents (see section 1.3 for signposting to the relevant application documents).

1. Take the total impact from Table 1-3 which is 11 to 263 common guillemot from all age-classes.
2. Take the age-class apportioning percentage of adults from Table 1-4. During non-breeding, it is assumed that 100% of birds are adults due to difficulties in identifying age classes from DAS for common guillemot.
3. Take the apportioning value from Table 1-10 which is 7.92% of adult birds during the non-breeding season being from Cape Wrath SPA.
4. Multiply steps 1, 2 and 3 to calculate the apportioned impact on common guillemot from Cape Wrath SPA. 11*100*0.0792 = 0.9 and 263*100*0.0792 = 20.8
5. To calculate the increase in baseline mortality, take the colony size (from Table 1-10) and multiple by the average mortality rate (from Table 1-5) – 54,718*0.061 = 3,338. Then divide the predicted impact (0.9 to 20.8) by the baseline mortality 3,338 = 0.03 to 0.62%.

1.5.1.2 The bio-seasons included within the following tables replicate the tables presented in Appendix A of the HRA Stage 1 Screening (REP2-012). Therefore, some sites do not have non-breeding season impacts apportioned as they represent less than 1% of the relevant Biologically Defined Minimum Population Scales (BDMPS) and were screened out of assessment during those periods (in line with SNCB advice following the fifth EWG meeting (see Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)). However, within the in-combination tables (section 1.5.3) the complete annual impact is presented (including non-breeding impacts even when a site represents <1% of the BDMPS).

[illegible]

~~1.5.1.3 When considering the full range of displacement impacts, the breeding season impact is 0 (0 to 1) birds and 0 (0 to 2) birds during the non-breeding season for all age-class birds (when considering the full range 30-70% displacement and 1-10% mortality). Apportioning one bird (the maximum impact during the breeding season) to the five SPAs considered in the HRA Stage 1 Screening (REP2-012) is not considered by the Applicant to be not proportionate to the potential risk posed to these SPAs as <1 bird per site would not equate to an AEoSI. Similarly, there were nine SPAs which represented more than >1% of the non-breeding BDMPS of Atlantic puffin. Apportioning two birds between nine SPAs again is not proportionate to the risk posed to these SPAs from the Mona Offshore Wind Project. Therefore, Atlantic puffin is not considered further in this document.~~

1.5.1.3 As presented in Table 1-3, the breeding season impact for Atlantic puffin was 0 (0 to 1 birds) and during non-breeding season impact 0 (0 to 2) birds and the age-class apportioning is 100% of birds are considered adults (Table 1-4). The baseline mortality for Atlantic puffin is 0.094 (Table 1-5).

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Saltee Islands SPA	1,638 (2016/2021)	154	Breeding	1.56%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.01%)
Lambay Island SPA	288 (2015)	27	Breeding	0.71%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.03%)
Rathlin Island SPA	822 (2021)	77	Breeding	0.84%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.01%)
Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	57,796 (2020/2021)	5,432	Breeding	63.70%	0.0 (0.0 to 0.7)	0.00% (0.00% to 0.01%)
			Non-breeding	3.47%	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.00%)
Hermaness, Saxa Vord and Valla Field SPA	47,322 (2002)	4,448	Non-breeding	1.51%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00%)
Foula SPA	45,000 (2000)	4,230	Non-breeding	1.44%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00%)
Forth Islands SPA	124,462 (2008/2010)	11,699	Non-breeding	3.49%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00%)
Farne Islands SPA	79,924 (2013)	7,513	Non-breeding	2.24%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00%)
Sule Kerry and Sule Stack	118,942 (1998)	11,181	Non-breeding	8.57%	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.00%)
St Kilda	284,528 (2000)	26,746	Non-breeding	20.49%	0.0 (0.0 to 0.3)	0.00% (0.00% to 0.00%)
Shiant Isles	130,340 (2000)	12,252	Non-breeding	9.39%	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.00%)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Flannan Isles	31,200 (2001)	2,933	Non-breeding	2.25%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00%)
1 Values represent 50% displacement and 1% mortality (30% displacement and 1% mortality – 70% displacement and 10% mortality)						

1.5.1.4 As the predicted project alone impact is predicted to increase the baseline mortality by <0.05% it is not deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for all the SPAs considered (as set out in Figure 1.1 of HRA Stage 2 Information to Support an Appropriate Assessment. Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-10)).

[illegible]

~~1.5.1.4~~1.5.1.5 As presented in Table 1-3, the breeding season impact for black-legged kittiwake was 4 (2 to 51), and the age-class apportioning was 95.36% of birds are adults (Table 1-4). During the spring migration season impact for black-legged kittiwake was 3 (2 to 40) birds and 3 (2 to 39) during the autumn migration season (Table 1-3). The age-class apportioning was 92.01% of birds are adults during both the spring and autumn migration seasons (Table 1-4). The baseline mortality for black-legged kittiwake is 0.146 (Table 1-5).

1.5.1.6 ~~Table 1.8~~Sites which are predicted to be impacted by an increase of >0.05%, and therefore require an in-combination assessment, are highlighted in yellow within Table 1-9.

[illegible] 1-[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Lambay Island SPA	6,640 (2015)	969~~.4~~	Breeding	3.78	0.1 (0.1 to 1.8)	0.01% (0.01% to 0.19%)	0.4	0.04%
Rathlin Island SPA	27,534 (2021)	4,020~~.0~~	Breeding	4.91	0.2 (0.1 to 2.4)	0.00% (0.00% to 0.06%)	0.5	0.01%

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			Post-breeding	1.91	0.1 (0.0 to 0.7)	0.00% (0.00% to 0.03%)	0.1	0.01%
			Pre-breeding	3.37	0.1 (0.1 to 1.2)	0.00% (0.00% to 0.05%)	0.3	0.01%
Ireland's Eye SPA	3,100 (2015)	~~452.6~~453	Breeding	1.59	0.1 (0.0 to 0.8)	0.01% (0.01% to 0.17%)	0.2	0.04%
Howth Head Coast SPA	3,586 (2015)	~~523.6~~524	Breeding	1.84	0.1 (0.0 to 0.9)	0.01% (0.01% to 0.17%)	0.2	0.04%
Wicklow Head SPA	1,348 (2022)	~~196.8~~197	Breeding	0.56	0.0 (0.0 to 0.3)	0.01% (0.01% to 0.14%)	0.1	0.03%
Helvick Head to Ballyquin SPA	130 (2018)	19~~.0~~	Breeding	0.01	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.03%)	0.0	0.01%
Saltee Islands SPA	1,690 (2013)	~~246.7~~247	Breeding	0.22	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.04%)	0.0	0.01%
North Colonsay and Western Cliffs SPA	9,361 (2023)	1,~~366.7~~367	Breeding	0.85	0.0 (0.0 to 0.4)	0.00% (0.00% to 0.03%)	0.1	0.01%
Ailsa Craig SPA	980 (2021)	143~~.1~~	Breeding	0.30	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.10%)	0.0	0.02%
			Post-breeding	0.12	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.03%)	0.0	0.01%
			Pre-breeding	0.21	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.05%)	0.0	0.01%
Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm	2,014 (2022)	294~~.0~~	Breeding	0.30	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.05%)	0.0	0.01%
			Post-breeding	0.25	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.03%)	0.0	0.01%
			Pre-breeding	0.45	0.0 (0.0 to 0.2)	0.00% (0.00% to 0.05%)	0.0	0.01%

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
a Moroedd Penfro SPA								
North Caithness Cliffs SPA	20,300 (2000)	2,964	Post-breeding	0.81	0.0 (0.0 to 0.3)	0.00% (0.00% to 0.01%)	0.1	0.00%
			Pre-breeding	1.62	0.1 (0.0 to 0.6)	0.00% (0.00% to 0.02%)	0.1	0.00%
East Caithness Cliffs SPA	80,820 (1999)	11,800	Post-breeding	3.24	0.1 (0.1 to 1.2)	0.00% (0.00% to 0.01%)	0.2	0.00%
			Pre-breeding	6.45	0.2 (0.1 to 2.4)	0.00% (0.00% to 0.02%)	0.5	0.00%
Troup, Pennan and Lions Heads SPA	29,792 (2007)	4,350	Post-breeding	1.19	0.0 (0.0 to 0.4)	0.00% (0.00% to 0.01%)	0.1	0.00%
			Pre-breeding	2.38	0.1 (0.0 to 0.9)	0.00% (0.00% to 0.02%)	0.2	0.00%
Buchan Ness to Collieston SPA	25,084 (2007)	3,662	Post-breeding	1.01	0.0 (0.0 to 0.4)	0.00% (0.00% to 0.01%)	0.1	0.00%
			Pre-breeding	2.00	0.1 (0.0 to 0.7)	0.00% (0.00% to 0.02%)	0.2	0.00%
Fowlsheugh SPA	18,674 (2012)	2,726	Post-breeding	0.75	0.0 (0.0 to 0.3)	0.00% (0.00% to 0.01%)	0.1	0.00%
			Pre-breeding	1.49	0.1 (0.0 to 0.5)	0.00% (0.00% to 0.02%)	0.1	0.00%
Flamborough and Filey Coast SPA	75,234 (2008)	10,984	Post-breeding	3.02	0.1 (0.1 to 1.1)	0.00% (0.00% to 0.01%)	0.2	0.00%
			Pre-breeding	6.01	0.2 (0.1 to 2.2)	0.00% (0.00% to 0.02%)	0.5	0.00%
Cape Wrath SPA	20,688 (2000)	3,020	Post-breeding	2.49	0.1 (0.0 to 0.9)	0.00% (0.00% to 0.03%)	0.2	0.01%

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			Pre-breeding	4.40	0.1 (0.1 to 1.6)	0.00% (0.00% to 0.05%)	0.4	0.01%
North Colonsay and Western Cliffs SPA	11,126 (2000)	1,624	Post-breeding	1.34	0.0 (0.0 to 0.5)	0.00% (0.00% to 0.03%)	0.1	0.01%
			Pre-breeding	2.37	0.1 (0.0 to 0.9)	0.00% (0.00% to 0.05%)	0.2	0.01%
West Westray SPA	24,110 (2007)	3,520	Post-breeding	1.93	0.1 (0.0 to 0.7)	0.00% (0.00% to 0.02%)	0.1	0.00%

1 Values represent 50% displacement and 1% mortality (30% displacement and 1% mortality – 70% displacement and 10% mortality)

2 Values represent 30% displacement and 3% mortality which is in line with NatureScot guidance on black-legged kittiwake displacement assessment (NatureScot, 2023)

1.5.1.7 As the project alone impact is predicted to increase the baseline mortality by <0.05% it is not deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for several of the SPAs considered. However the predicted impact on Ailsa Craig SPA, Rathlin Island SPA, Lambay Island SPA, Ireland's Eye SPA, Howth Head Coast SPA, Wicklow Head SPA, Cape Wrath SPA, North Colonsay and Western Cliffs SPA and Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA is >0.05% (when considering the highest displacement and mortality rates) and therefore these sites are considered as part of the in-combination assessments (section 1.5.3).

[illegible]

~~1.5.1.5~~1.5.1.8 As presented in Table 1-3, the non-breeding season impact for common guillemot was 19 (11 to 263) and the age-class apportioning is 100% of birds are considered adults (Table 1-4). The baseline mortality for common guillemot is 0.061 (Table 1-5).

~~1.5.1.6~~1.5.1.9 Within Table 1-10, the displacement impact is also considered using a 70% displacement rate and a 2% mortality rate alongside the SNCBs advised range, which is in line with recent HRAs undertaken by the Secretary of State for offshore wind projects within the North Sea (e.g Hornsea Two/Three/Four, East Anglia One North, East Anglia Two, Norfolk Boreas, Norfolk Vanguard, SEP and DEP).

1.5.1.10 Sites which are predicted to be impacted by an increase of >0.05%, and therefore require an in-combination assessment, are highlighted in yellow within Table 1-10.

[illegible] 1-10 [illegible]

SPA	Colony Count (year)	Baseline mortality (0.061)	Apportioning value (%)	[illegible][1]	[illegible][1]	Predicted Impact (adult bird mortalities~~, 70% displacement,~~)[2]~~% mortality)~~	[illegible]
Sule Skerry and Sule Stack SPA	15,266 (1998)	931	2.21	0.4 (0.2 to 5.8)	0.045% (0.03% to 0.62%)	1.17	0.13%
North Rona and Sula Sgeir SPA	10,000 (1998)	610	1.45	0.3 (0.2 to 3.8)	0.045% (0.03% to 0.62%)	0.77	0.13%
Cape Wrath SPA	54,718 (2000)	3,338	7.92	1.5 (0.9 to 20.8)	0.045% (0.03% to 0.62%)	4.20	0.13%
Handa SPA	75,986 (1998)	4,635	11.00	2.1 (1.2 to 28.9)	0.045% (0.03% to 0.62%)	5.83	0.13%
Shiant Isles SPA	10,296 (1999)	628	1.49	0.3 (0.2 to 3.9)	0.045% (0.03% to 0.62%)	0.79	0.13%
Flannan Isles SPA	19,614 (1998)	1,196	2.84	0.5 (0.3 to 7.5)	0.045% (0.03% to 0.62%)	1.51	0.13%
St Kilda SPA	31,400 (1999)	1,915	4.55	0.9 (0.5 to 12.0)	0.045% (0.03% to 0.62%)	2.41	0.13%

SPA	Colony Count (year)	Baseline mortality (0.061)	Apportioning value (%)	[illegible] [1]	[illegible] [1]	Predicted Impact (adult bird mortalities~~, 70% displacement,~~)[2]~~% mortality)~~	[illegible]
Canna and Sanday SPA	7,826 (1999)	477	1.13	0.2 (0.1 to 3.0)	0.045% (0.03% to 0.62%)	0.60	0.13%
Mingulay and Berneray SPA	27,054 (2003)	1,650	3.92	0.7 (0.4 to 10.3)	0.045% (0.03% to 0.62%)	2.08	0.13%
North Colonsay and Western Cliffs SPA	27,000 (2000)	1,647	4.11	0.8 (0.5 to 10.8)	0.047% (0.03% to 0.66%)	2.18	0.13%
Ailsa Craig SPA	10,494 (2013)	640	1.60	0.3 (0.2 to 4.2)	0.047% (0.03% to 0.66%)	0.85	0.13%
Rathlin Island SPA	174,796 (2011)	10,663	26.64	5.1 (2.9 to 70.1)	0.047% (0.03% to 0.66%)	14.12	0.13%
Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	32,600 (2013)	1,989	4.47	0.8 (0.5 to 11.8)	0.043% (0.02% to 0.59%)	2.37	0.12%

[1] Values represent 50% displacement and 1% mortality (30% displacement and 1% mortality – 70% displacement and 10% mortality)

[2] Values represent 70% displacement and 2% mortality

1.5.1.11 As the project alone impact is predicted to increase the baseline mortality by >0.05% it is deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for all of the SPAs considered (section 1.5.3).

[illegible]

~~1.5.1.7~~1.5.1.12 As presented in Table 1-3, the breeding season impact for northern gannet was 2 (2 to 20), and the age-class apportioning was 93.58% of birds are adults (Table 1-4). During post-breeding season, the impact for northern gannet was 0 (0 to 2) birds and 0 (0 to 5) birds for the pre-breeding season (Table 1-3). The age-class apportioning was 96.43% of birds are adults during both the pre- and post-breeding seasons (Table 1-4). The baseline mortality for northern gannet is 0.081 (Table 1-5).

1.5.1.13 ~~Table 1.10~~Sites which are predicted to be impacted by an increase of >0.05%, and therefore require an in-combination assessment, are highlighted in yellow within Table 1-11.

Table 1-11 [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Predicted Impact (adult bird mortalities ~~60 % displacement and~~)[1]~~% mortality to 80% displacement and 10% mortality)~~	[illegible]
Ailsa Craig SPA	66,452 (2014)	5,~~382.6~~383	Breeding	56.16	1.0 to 10.5	0.02% to 0.19%
			Post-breeding	17.06	0.0 to 0.8	0.00% to 0.02%
			Pre-breeding	13.86	0.0 to 0.3	0.00% to 0.01%
Grassholm SPA	72,022 (2015)	5,~~833.8~~834	Breeding	17.61	0.3 to 3.3	0.01% to 0.06%
			Post-breeding migration	24.71	0.0 to 1.2	0.00% to 0.02%
			Pre-breeding	20.07	0.0 to 0.4	0.00% to 0.01%
Saltee Islands SPA	9,444 (2013)	765~~.0~~	Breeding	2.82	0.1 to 0.5	0.01% to 0.07%
Skelligs SPA	70,588 (2014)	5,~~717.6~~718	Breeding	4.37	0.1 to 0.8	0.00% to 0.01%
St Kilda SPA	120,636 (2014)	9,~~771.5~~772	Breeding	5.04	0.1 to 0.9	0.00% to 0.01%
			Post-breeding migration	33.75	0.0 to 1.6	0.00% to 0.02%
			Pre-breeding	30.46	0.0 to 0.6	0.00% to 0.01%
Hermaness, Saxa Vord and Valla Field SPA	48,706 (2008)	3,945	Post-breeding migration	3.06	0.0 to 0.1	0.00% to 0.00%
			Pre-breeding	3.73	0.0 to 0.1	0.00% to 0.00%
Noss SPA	19,534 (2008)	1,582	Post-breeding migration	1.23	0.0 to 0.1	0.00% to 0.00%
			Pre-breeding	1.50	0.0 to 0.0	0.00% to 0.00%

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Predicted Impact (adult bird mortalities~~, 60 % displacement and~~)[1] ~~% mortality to 80% displacement and 10% mortality)~~	[illegible][1]
Sule Skerry and Sule Stack SPA	9,350 (2004)	757	Post-breeding migration	2.65	0.0 to 0.1	0.00% to 0.02%
			Pre-breeding	2.39	0.0 to 0.0	0.00% to 0.01%
North Rona and Sula Sgeir SPA	18,450 (2004)	1,494	Post-breeding migration	5.22	0.0 to 0.3	0.00% to 0.02%
			Pre-breeding	4.71	0.0 to 0.1	0.00% to 0.01%

[1] Values represent 60 % displacement and 1% mortality to 80% displacement and 10% mortality

1.5.1.14 As the project alone impact is predicted to increase the baseline mortality by <0.05% it is not deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for several of the SPAs considered. However, the predicted displacement impact on Ailsa Craig SPA, Grassholm SPA and Saltee Islands SPA is >0.05% (when considering the highest displacement and mortality rates) and therefore these sites are considered as part of the in-combination assessments (section 1.5.3).

[illegible]

~~1.5.1.8~~1.5.1.15 As presented in Table 1-3, the breeding season impact for Manx shearwater was 6 (4 to 87), and the age-class apportioning was 100% of birds are adults (Table 1-4). During pre-breeding season, the impact for Manx shearwater was 0 (0 to 0) birds, and 0 (0 to 1) birds for the post-breeding season (Table 1-3). The age-class apportioning was 100% of birds are adults during both the pre- and post-breeding seasons (Table 1-4). The baseline mortality for Manx shearwater is 0.130 (Table 1-5).

1.5.1.16 ~~Table 1.11.~~Sites which are predicted to be impacted by an increase of >0.05%, and therefore require an in-combination assessment, are highlighted in yellow within Table 1-12.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA	32,366 (2001)	4,~~207.6~~208	Breeding	11.34	0.7 (0.5 to 9.9)	0.02% (0.01% to 0.23%)
			Post-breeding	3.26	0.0 (0.0 to 0.4)	0.~~0~~00% (0.00% to 0.01%)
Copeland Islands SPA	9,700 (2007)	1,261~~.0~~	Breeding	2.20	0.1 (0.1 to 1.9)	0.01% (0.01% to 0.15%)
Cruagh Island SPA	6,572 (2001)	854~~.4~~	Breeding	0.17	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.02%)
Blasket Islands SPA	39,068 (2001)	5,~~078.8~~079	Breeding	0.75	0.0 (0.0 to 0.7)	0.00% (0.00% to 0.01%)
Skelligs SPA	1,476 (2001)	~~191.9~~192	Breeding	0.03	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.01%)
Deenish Island and Scariff Island SPA	4,622 (2000)	~~600.9~~601	Breeding	0.09	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01%)
Rum SPA	240,000 (2001)	31,200~~.0~~	Breeding	7.01	0.4 (0.3 to 6.1)	0.00% (0.00% to 0.02%)
			Pre-breeding	24.19	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00%)
			Post-breeding	24.19	0.0 (0.2 to 3.1)	0.00% (0.00% to 0.01%)
Skomer, Skokholm and the Seas off	910,312 (2018)	118,~~340.6~~341	Breeding	74.975	4.5 (3.0 to 65.2)	0.00% (0.00% to 0.06%)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA			Pre-breeding	70.54	0,0 (0.0 to 0.0)	0.00% (0.00% to 0.00%)
			Post-breeding	70.54	0.0 (0.7 to 9.2)	0.00% (0.00% to 0.01%)
St Kilda SPA	9,604 (1999)	1,249	Pre-breeding	0.97	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00%)
			Post-breeding	0.97	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01%)

1 Values represent 50% displacement and 1% mortality (30% displacement and 1% mortality – 70% displacement and 10% mortality)

1.5.1.17 As the project alone impact is predicted to increase the baseline mortality by <0.05% it is not deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for several of the SPAs considered. However the predicted impact on Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA, Copeland Islands SPA and Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA is >0.05% and therefore these sites are considered as part of the in-combination assessments (section 1.5.3).

[illegible]

~~1.5.1.9~~1.5.1.18 As presented in Table 1-3, the migration season impact for razorbill was 10 (6 to 141) and 2 (1 to 29) during the winter. The age-class apportioning is 100% of birds are considered adults (Table 1-4). The baseline mortality for razorbill is 0.105 (Table 1-5).

~~1.5.1.10~~1.5.1.19 Within Table 1-13, the displacement impact is also considered using a 70% displacement rate and a 2% mortality rate alongside the SNCBs advised range, which is in line with recent HRAs undertaken by the Secretary of State for offshore wind projects within the North Sea (e.g Hornsea Three/Four, DEP and SEP).

1.5.1.20 ~~Table 1.12~~Sites which are predicted to be impacted by an increase of >0.05%, and therefore require an in-combination assessment, are highlighted in yellow within Table 1-13.

[illegible]

SPA	Colony count (year)	Baseline Mortality (0.105)	Bio season	[illegible]	[illegible]	[illegible]	Predicted Impact (~~no.~~ adult bird mortalities~~, 70% displacementand~~)[2]~~% mortality)~~	[illegible]
Cape Wrath SPA	4,180 (2000)	439	Migration seasons	1.29%	0.1 (0.1 to 1.8)	0.03% (0.02% to 0.42%)	0.18	0.04%
			Winter	0.93%	0.0 (0.0 to 0.3)	0.00% (0.00% to 0.06%)	0.13	0.03%
Handa SPA	10,330 (2010)	1,085	Migration seasons	3.19%	0.3 (0.2 to 4.5)	0.03% (0.02% to 0.42%)	0.45	0.04%
			Winter	2.31%	0.0 (0.0 to 0.7)	0.00% (0.00% to 0.06%)	0.32	0.03%
Shiant Isles SPA	8,496 (2008)	892	Migration seasons	2.63%	0.3 (0.2 to 3.7)	0.03% (0.02% to 0.42%)	0.37	0.04%
			Winter	1.90%	0.0 (0.0 to 0.5)	0.00% (0.00% to 0.06%)	0.27	0.03%
Mingulay and Berneray SPA	20,222 (2009)	2,123	Migration seasons	6.25	0.6 (0.4 to 8.8)	0.03% (0.02% to 0.42%)	0.88	0.04%
			Winter	4.51%	0.1 (0.0 to 1.3)	0.00% (0.00% to 0.06%)	0.63	0.03%
Rathlin Island SPA	30,786 (2011)	3,233	Migration seasons	9.52%	1.0 (0.6 to 13.4)	0.03% (0.02% to 0.42%)	1.33	0.04%

SPA	Colony count (year)	Baseline Mortality (0.105)	Bio season	[illegible]	[illegible]	[illegible]	Predicted Impact (~~no.~~ adult bird mortalities~~, 70% displacementand~~)[2]~~% mortality)~~	[illegible]
			Winter	6.87%	0.1 (0.1 to 2.0)	0.00% (0.00% to 0.06%)	0.96	0.03%
Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	12,002 (2013)	1,260	Migration seasons	3.71%	0.4 (0.2 to 5.2)	0.03% (0.02% to 0.42%)	0.52	0.04%
			Winter	2.01%	0.0 (0.0 to 0.6)	0.00% (0.00% to 0.05%)	0.28	0.02%
Flannan Isles SPA	2,102 (1998)	221	Migration seasons	0.65%	0.1 (0.0 to 0.9)	0.03% (0.02% to 0.42%)	0.09	0.04%
			Winter	0.47%	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.06%)	0.09	0.03%

[1] Values represent 50% displacement and 1% mortality (30% displacement and 1% mortality – 70% displacement and 10% mortality)

[2] Values represent 70% displacement and 2% mortality

1.5.1.21 As the project alone impact is predicted to increase the baseline mortality by >0.05% it is deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for all of the SPAs considered (section 1.5.3).

[illegible]

1.5.2.1 The ~~bio-seasons~~bioseasons included within following tables replicate the tables presented in Appendix A of the HRA Stage 1 Screening (REP2-012). ~~Therefore, some~~Some sites do not have non-breeding season impacts apportioned as they represent less than 1% of the relevant BDMPS and were screened out of assessment during those periods (in line with SCNB advice during the EWG (see Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)). However, within the in-combination tables (section 1.5.3) the complete annual impact is presented (including non-breeding impacts even when a site is <1% of the BDMPS~~) to provide a complete annual of the impact.~~).

[illegible]

1.5.2.2 As presented in Table 1-6 the breeding season impact for black-legged kittiwake was 15.52 (5.68 to 31.60) when using the species-group avoidance rate and the age-class apportioning was 95.36% of birds are adults (Table 1-4). During the spring migration season impact for black-legged kittiwake was 8.74 (3.09 to 18.15) birds and 8.41 (2.96 to 17.53) during the autumn migration season (Table 1-6). The age-class apportioning was 92.01% of birds are adults during both the spring and autumn migration seasons (Table 1-4).

1.5.2.3 ~~Table 1.13~~Sites which are predicted to be impacted by an increase of >0.05%, and therefore require an in-combination assessment, are highlighted in yellow within Table 1-14.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Lambay Island SPA	6,640 (2015)	969~~.4~~	Breeding	3.78	0.6 (0.2 to ~~0.2~~1.1)	0.06% (0.02% to 0.12~~%~~%)
Rathlin Island SPA	27,534 (2021)	4,020~~.0~~	Breeding	4.91	0.0 (0.0 to 0.~~2~~0)	0.01% (0.00% to 0.~~04%~~02%)
			Post-breeding	1.91	0.1 (0.1 to 0.3)	0.01% (0.00% to 0.01~~%~~%)
			Pre-breeding	3.37	0.3 (0.1 to 0.6)	0.01% (0.00% to 0.02~~%~~%)
Ireland's Eye SPA	3,100 (2015)	~~452.6~~453	Breeding	1.59	0.2 (0.1 to 0.~~1~~5)	0.05% (0.02% to 0.11~~%~~%)
Howth Head Coast SPA	3,586 (2015)	~~523.6~~524	Breeding	1.84	0.3 (0.1 to 0.6)	0.05% (0.02% to 0.11~~%~~%)
Wicklow Head SPA	1,348 (2022)	~~196.8~~197	Breeding	0.56	~~-~~0.1 (0.0 to 0.~~0~~2)	0.04% (0.02% to 0.09~~%~~%)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Helvick Head to Ballyquin SPA	130 (2018)	19~~.0~~	Breeding	0.01	0.0 (0.0 to 0.0)	0.01% (0.00% to 0.02~~%~~%)
Saltee Islands SPA	1,690 (2013)	~~246.7~~247	Breeding	0.22	0.0 (0.0 to 0.~~0~~1)	0.01% (0.00% to 0.03~~%~~%)
North Colonsay and Western Cliffs SPA	9,361 (2023)	1,~~366.7~~367	Breeding	0.85	0.1 (0.0 to 0.~~0~~3)	0.01% (0.00% to 0.02~~%~~%)
Ailsa Craig SPA	980 (2021)	143~~.1~~	Breeding	0.30	0.0 (0.0 to 0.~~0~~1)	0.03% (0.01% to 0.06~~%~~%)
			Post-breeding	0.12	0.0 (0.0 to 0.0)	0.01% (0.00% to 0.01~~%~~%)
			Pre-breeding	0.21	0.0 (0.0 to 0.0)	0.01% (0.00% to 0.02~~%~~%)
Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	2,014 (2022)	294~~.0~~	Breeding	0.30	0.0 (0.0 to 0.~~0~~1)	0.02% (0.01% to 0.03~~%~~%)
			Post-breeding	0.25	0.0 (0.0 to 0.0)	0.01% (0.00% to 0.01~~%~~%)
			Pre-breeding	0.45	0.0 (0.0 to 0.1)	0.01% (0.00% to 0.02~~%~~%)
North Caithness Cliffs SPA	20,300 (2000)	2,964	Post-breeding	0.81	0.1 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding	1.62	0.1 (0.0 to 0.3)	0.00% (0.00% to 0.01~~%~~%)
East Caithness Cliffs SPA	80,820 (1999)	11,800	Post-breeding	3.24	0.3 (0.1 to 0.5)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding	6.45	0.5 (0.2 to 1.1)	0.00% (0.00% to 0.01~~%~~%)
Troup, Pennan and Lions Heads SPA	29,792 (2007)	4,350	Post-breeding	1.19	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding	2.38	0.2 (0.1 to 0.4)	0.00% (0.00% to 0.01~~%~~%)
Buchan Ness to Collieston SPA	25,084 (2007)	3,662	Post-breeding	1.01	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding	2.00	0.2 (0.1 to 0.3)	0.00% (0.00% to 0.01~~%~~%)
Fowlsheugh SPA	18,674 (2012)	2,726	Post-breeding	0.75	0.1 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding	1.49	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.01~~%~~%)
Flamborough and Filey Coast SPA	75,234 (2008)	10,984	Post-breeding	3.02	0.2 (0.1 to 0.5)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding	6.01	0.5 (0.2 to 1.0)	0.00% (0.00% to 0.01~~%~~%)
Cape Wrath SPA	20,688 (2000)	3,020	Post-breeding	2.49	0.2 (0.1 to 0.4)	0.01% (0.00% to 0.01~~%~~%)
			Pre-breeding	4.40	0.4 (0.1 to 0.7)	0.01% (0.00% to 0.02~~%~~%)
North Colonsay and Western Cliffs SPA	11,126 (2000)	1,624	Post-breeding	1.34	0.1 (0.0 to 0.2)	0.01% (0.00% to 0.01~~%~~%)
			Pre-breeding	2.37	0.2 (0.1 to 0.4)	0.01% (0.00% to 0.02~~%~~%)
West Westray SPA	24,110 (2007)	3,520	~~Post~~Pre-breeding	1.93	0.1 (0.0 to 0.~~3~~2)	0.00% (0.00% to 0.~~01%~~00%)

1.5.2.4 As the project alone impact is predicted to increase the baseline mortality by <0.05% it is not deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for several of the SPAs considered. However the predicted impact on Ailsa Craig SPA, Rathlin Island SPA, Lambay Island SPA, Ireland's Eye SPA, Howth Head Coast SPA, Wicklow Head SPA, Cape Wrath SPA, North Colonsay and Western Cliffs SPA and Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA is >0.05% and therefore these sites are considered as part of the in-combination assessments (section 1.5.3).

[illegible]

~~1.5.2.3~~1.5.2.5 As presented in Table 1-6 the breeding season impact for herring gull was 0.03 (0.01 to 0.06) and the age-class apportioning was 80.0% of birds are adults (Table 1-4). During the non-breeding season impact on herring gull was 1.48 (0.50 to 3.13) birds (Table 1-6) and the age-class apportioning was 75.61% of birds are adults (Table 1-4).

~~1.5.2.4~~1.5.2.6 Species-group and species-specific avoidance rates ~~are presented in Table 1.14.~~for herring gull are 0.9939 and 0.9952, respectively.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Morecambe Bay SPA	3,188 (2023)	529~~.2~~	Breeding	18.80%	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
			Non-breeding	3.18%	0.0 (0.0 to 0.1)	0.00% to 0.01%	0.0 (0.0 to 0.~~0~~1)	0.00% (0.00% to 0.01~~%~~%)

1.5.2.7 As the predicted project alone impact is predicted to increase the baseline mortality by <0.05% it is not deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for the Morecambe Bay SPA (as set out in Figure 1.1 of HRA Stage 2 Information to Support an Appropriate Assessment. Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-10)).

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~~1.5.2.5~~1.5.2.8 As presented in ~~section 1.4.1~~Table 1-6, the non-breeding season impact for great black-backed gull was 3.16 (1.07 to 6.66) and the age-class apportioning was 70.49% of birds are adults (Table 1-4~~).~~). Species-group and species-specific avoidance rates are presented in Table 1-16. Note that this species typically takes 5 years to be defined as an identifiable 'adult' in the field.

~~1.5.2.6 Species-group and species-specific avoidance rates are presented in Table 1.15~~

~~1.5.2.7~~1.5.2.9 The predicted impact from the project alone is predicted to increase the baseline mortality by >1% when considering the UCI of collision impacts. No project alone PVA was undertaken because the predicted number of ~~collision~~collisions is very small (1.4 birds) when considering the UCI. Furthermore, the increase in baseline mortality is only marginally above the 1.00% threshold and the Applicant used expert judgement to determine whether PVA was required. The Applicant has presented a PVA for the in-combination impact on great black-backed gull from the Isles of Scilly SPA (section 1.6.5). The in-combination PVA predicts that with or without the impact the population of the Isles of Scilly SPA is expected to continue to grow.

1.5.2.10 Species-group and species-specific avoidance rates for great black-backed gull are 0.9939 and 0.9991, respectively.

1.5.2.11 Sites which are predicted to be impacted by an increase of >0.05%, and therefore require an in-combination assessment, are highlighted in yellow within Table 1-16.

□□□□1-□1 □□□d□□□r□□□□□□□□□□□d□□□□□□□r□□□d□□□□□□d□□□□□ □r□□□□d□□□□□□□□□d□r□□□□□□□□□r□□d□□□□□□□□□□□

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Isles of Scilly SPA	1,802 (2006)	126~~.0~~	28.85	0.6 (0.2 to 1.4)	0.51% (0.18% to 1.08~~%~~%)	0.1 (0.0 to 0.~~02~~2)	0.08% (0.03% to 0.16~~%~~%)

1.5.2.12 As the alone impact is predicted to increase the baseline mortality by >0.05% it is deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for the Isles of Scilly SPA (as set out in Figure 1.1 of HRA Stage 2 Information to Support an Appropriate Assessment. Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-10)).

[illegible]

~~1.5.2.8~~1.5.2.13 As presented in Table 1-6, the breeding season impact for lesser black-backed gull was 0.33 (0.10 to 0.81), and the age-class apportioning was 81.82% of birds are adults (Table 1-4). During the pre-breeding season impact for lesser black-backed gull was 0.83 (0.26 to 1.94) birds, and 0.76 (0.23 to 1.69) during the winter season (Table 1-4). The age-class apportioning was 86.96% of birds are adults during both the spring migration and winter seasons (Table 1-4).

~~1.5.2.9~~1.5.2.14 Species-group and species-specific avoidance rates ~~are presented in Table 1-16.~~or lesser black-backed gull are 0.9939 and 0.9954, respectively.

Table 1-1 [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ribble and Alt Estuaries SPA	8,978 (2021)	1,032~~.5~~	Breeding	26.78	0.1 (0.0 to 0.2)	0.01% (0.00% to 0.02~~%~~%)	0.1 (0.0 to 0.1)	0.01% (0.00% to 0.01~~%~~%)
			Post-breeding	7.30	No predicted collisions			
			Winter	9.18	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)
			Pre-breeding	7.47	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
Morecambe Bay and Duddon Estuary SPA	4,874 (2023)	~~560.5~~561	Breeding	12.72	0.0 (0.0 to 0.1)	0.01% (0.00% to 0.~~01%~~02%)	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)
			Post-breeding	4.41	No predicted collisions			
			Winter	5.54	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)
			Pre-breeding	4.50	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bowland Fells	29,254 (2012)	3,364~~.2~~	Breeding	37.21	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.01~~%~~%)	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.01~~%~~%)
			Post-breeding	4.04	No predicted collisions			
			Winter	5.08	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)
			Pre-breeding	4.13	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
Lambay Island SPA	952 (2010)	109~~.5~~	Breeding	0.49	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
Ailsa Craig SPA	378 (2019)	43~~.5~~	Breeding	0.10	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
Rathlin Island SPA	1,038 (2021)	119~~.4~~	Breeding	0.16	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
			Post-breeding	0.09	No predicted collisions			
			Winter	0.12	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.01~~%~~%)
			Pre-breeding	0.10	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	16,214 (2023)	1,~~864.6~~865	Breeding	1.95	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
			Post-breeding	11.92	No predicted collisions			
			Winter	10.70	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.01~~%~~%)	0.1 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)
			Pre-breeding	12.19	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.01~~%~~%)	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.01~~%~~%)
Isles of Scilly SPA	6,800 (2006)	782	Post-breeding	5.41	No predicted collisions			
			Winter	3.77	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.~~0~~1)	0.00% (0.00% to 0.01~~%~~%)
			Pre-breeding	5.53	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)	0.0 (0.0 to 0.~~0~~1)	0.00% (0.00% to 0.01~~%~~%)

1.5.2.15 As the project alone impact is predicted to increase the baseline mortality by <0.05% it is not deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for all the SPAs considered (as set out in Figure 1.1 of HRA Stage 2 Information to Support an Appropriate Assessment. Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-10)).

Manx shearwater

~~1.5.2.10~~1.5.2.16 There were no predicted collisions for Manx shearwater throughout the entire year and so no apportioning table is presented.

Northern fulmar

~~1.5.2.11~~1.5.2.17 Within Table 1-6, the impact on northern fulmar was 0.32 (0.00 to 1.94) birds (when considering the LCI and UCI of the collision impacts) during the breeding season. It is not deemed necessary to undertake a full apportioning for this species for the 10 SPAs identified within the HRA Stage 1 Screening Report (REP2-01). Northern fulmar has an extensive foraging range, and therefore, a large number of SPAs could be included.

~~1.5.2.12~~1.5.2.18 Using the apportioning values from Morgan Offshore Wind Farm as a proxy (Morgan Generation Assets, 2024), the St Kilda SPA represented the largest apportioned value during the breeding season (1.0%). The latest population of St Kilda SPA is 58,372 adult birds, and the baseline mortality is 3,736 (using a baseline mortality of 0.064, Horswill and Robinson, 2014). Therefore, the added mortality of up to 0.02 birds (1.94 multiplied by 1.0%) represents a 0.005% increase in baseline mortality. Given the minute numbers involved, a full apportioning is not considered by the Applicant to be proportionate to the potential risk.

Northern gannet

~~1.5.2.13~~1.5.2.19 As presented in Table 1-6, the breeding season impact for northern gannet was 1.42 (0.28 to 3.94), and the age-class apportioning was 93.58% of birds are adults (Table 1-4). During post-breeding migration season, the impact for northern gannet was 0.15 (0.03 to 0.39) birds and 0.13 (0.04 to 0.33) birds for the return migration season (Table 1-6). The age-class apportioning was 96.43% of birds are adults during both the post-breeding and return migration seasons (Table 1-4). The baseline mortality for northern gannet is 0.081 (Table 1-5).

~~1.5.2.14~~1.5.2.20 Only species-group avoidance rate (0.9928) is presented in Table 1-18 as using the species-group avoidance ~~rates are~~rate is advised by the SNCBs.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ailsa Craig SPA	66,452 (2014)	5,383	Breeding	56.16	0.7 (0.1 to 2.1)	0.01% (0.00% to 0.04~~%~~%)
			Post-breeding migration	17.06	0.~~1~~0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding migration	13.86	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
Grassholm SPA	72,022 (2015)	5,834	Breeding	17.61	0.2 (0.0 to 0.6)	0.00% (0.00% to 0.01~~%~~%)
			Post-breeding migration	24.71	0.~~1~~0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding migration	20.07	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
Saltee Islands SPA	9,444 (2013)	765	Breeding	2.82	0.0 (0.0 to 0.1)	0.00% (0.00% to 0.01~~%~~%)
Skelligs SPA	70,588 (2014)	5,718	Breeding	4.37	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.00~~%~~%)
St Kilda SPA	120,636 (2014)	9,772	Breeding	5.04	0.1 (0.0 to 0.2)	0.00% (0.00% to 0.00~~%~~%)
			Post-breeding migration	33.75	0.~~1~~0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding migration	30.46	0.~~1~~0 (0.0 to 0.1)	0.00% (0.00% to 0.00~~%~~%)
Hermaness, Saxa Vord and Valla Field SPA	48,706 (2008)	3,945	Post-breeding migration	3.06	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding migration	3.73	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
Noss SPA	19,534 (2008)	1,582	Post-breeding migration	1.23	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding migration	1.50	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
Sule Skerry and Sule Stack SPA	9,350 (2004)	757	Post-breeding migration	2.65	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding migration	2.39	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
North Rona and Sula Sgeir SPA	18,450 (2004)	1,494	Post-breeding migration	5.22	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)
			Pre-breeding migration	4.71	0.0 (0.0 to 0.0)	0.00% (0.00% to 0.00~~%~~%)

1.5.2.21 As the project alone collision impact is predicted to increase the baseline mortality by <0.05% it is not deemed necessary to consider the Mona Offshore Wind Project within the in-combination assessment for all of the SPAs considered. However, the predicted combined displacement and collision impact on Ailsa Craig SPA, Grassholm SPA and Saltee Islands SPA is >0.05% (when considering the highest displacement and mortality rates) and therefore these sites are considered as part of the in-combination assessments (section 1.5.3).

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1.5.3.1 As requested by the ~~SNCB's~~SNCBs and following the Applicant's criteria (see Figure 1.1 of HRA Stage 2 Information to Support an Appropriate Assessment. Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-10) for inclusion of a SPA and qualifying feature to be taken through to in-combination assessment the following sites are considered below. 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 (see row RR-011.20 in Applicant's Response to Relevant Representations from Natural Resources Wales (NRW) PDA-011). The threshold for inclusion within an in-combination assessment was if the Mona Offshore Wind Project alone impacted the designated site by a >0.05% increase in baseline mortality. An increase of <0.05% was considered non-material and within natural fluctuations of the population. The following species and SPAs require an in-combination assessment when considering the SNCBs advised range of impacts:

- Black-legged kittiwake annually from:
  - Ailsa Craig SPA
  - Rathlin Island SPA
  - Lambay Island SPA
  - Ireland's Eye SPA
  - Howth Head Coast SPA
  - Wicklow Head SPA
  - Cape Wrath SPA
  - North Colonsay and Western Cliffs SPA
  - Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA
- Common guillemot during the non-breeding season from:
  - Sule Skerry and Sule Stack SPA
  - North Rona and Sula Sgeir SPA
  - Cape Wrath SPA
  - Handa SPA
  - Shiant Isles SPA
  - Flannan Isles SPA
  - St Kilda SPA
  - Canna and Sanday SPA
  - Mingulay and Berneray SPA
  - North Colonsay and western cliffs SPA
  - Ailsa Craig SPA
  - Rathlin Island SPA
  - Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA

- Great black-backed gull annually from the Isles of Scilly SPA
- Northern gannet annually from:
    - Ailsa Craig SPA
    - Grassholm SPA
    - ~~Saltee Islands SPA~~
    - ~~St Kilda SPA~~
- Manx shearwater ~~annual~~annually from:
    - Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA
    - Copeland Islands SPA
    - Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA
- Razorbill during the non-breeding season from:
    - Cape Wrath SPA
    - Handa SPA
    - Shiant Isles SPA
    - Mingulay and Berneray SPA
    - Rathlin Island SPA
    - Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA
    - Flannan Isles SPA

1.5.3.2 Following the submission of this technical note at Deadline 3, the SNCBs provided written and verbal feedback (see Table 1-1) that the gap-filled projects (method and detailed results presented in Offshore Ornithology Cumulative Effects Assessment and In-combination Gap-filling Historical Projects Technical Note (S_D3_12_F02)) should also be included within the in-combination assessments. As such, this note has been updated at Deadline 4 in the following tables to include the gap-filled projects alongside the previously presented in-combination projects.

1.5.3.3 Following the method set out in section 0 the Applicant has used the proportion of adult/immature birds within the Appendix tables of Furness (2015) for undertaking the age-class apportioning for all projects considered in-combination, including the Mona Offshore Wind Project during the non-breeding season. During the breeding season, for all projects, the Applicant maintains that using the stable-age structure from Furness (2015) and accepted on multiple consented projects and the Crown Estate Plan Level HRAs is a proportionate assessment.

1.5.3.4 Therefore, the impact from the Mona Offshore Wind Project as presented within the in-combination tables will differ from what is presented for the alone assessment.

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~~1.5.3.2~~1.5.3.5 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from Alisa Craig SPA, an in-combination assessment is presented within Table 1-19 (30% displacement and 1% mortality to 70% displacement and 10% mortality) and Table 1-20 (30% displacement and 3% mortality).

[illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season..

b – the apportioning value during the breeding season was taken from project specific documentation

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.002.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.001.

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Awel y Môr Offshore Wind Farm	162	46	45	8.31	6.20	4.54	0.0021	0.001 [b]	0.0012	0.00 to 0.02	0.00 to 0.00	0.00 to 0.00	0.02

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Burbo Bank Extension Offshore Wind Farm	27	376	25	0.00	12.26	0.00	0.0021	0.~~003~~002 [c]	0.0012	0.00 to 0.00	0.00 to 0.~~08~~05	0.00 to 0.00	0.00
Erebus Floating Wind Demo	1	1076	278	6.80	0.27	13.49	0.0021	No connectivity	0.0012	0.00 to 0.00	-	0.00 to 0.02	0.01
TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.0021	No connectivity	0.0012	0.00 to 0.00	-	0.00 to 0.01	0.00
Mona Offshore Wind Project	312	386	307	4.75	8.26	4.60	0.0021	0.001 [b]	0.0012	0.00 to 0.04	0.00 to 0.03	0.00 to 0.03	0.~~02~~01

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Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.90	8.00	6.37	0.0021	0.003 [b]	0.0012	0.00 to 0.09	0.02 to 0.44	0.01 to 0.18	0.01

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Morgan Offshore Wind Project Generation Assets	350	245	886	7.16	2.66	11.84	0.0021	0.002 [b]	0.0012	0.00 to 0.05	0.00 to 0.03	0.00 to 0.07	0.01

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Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0021	0.~~003~~002 c	0.0012	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00

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Rampion Offshore Wind Farm	451	563	122	22.69	37.54	8.67	0.0021	No connectivity	0.0012	0.00 to 0.06	-	0.00 to 0.01	0.05

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Rampion 2 Offshore Wind Farm	155	3	53	9.24	0.53	5.47	0.0021	No connectivity	0.0012	0.00 to 0.02	-	0.00 to 0.00	0.02

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Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.25	10.00	47.30	0.0021	0.~~003~~002 [c]	0.0012	0.00 to 0.11	0.00 to 0.~~04~~02	0.00 to 0.05	0.02
West of Orkney Windfarm	661	367	437	11.40	9.08	9.00	0.0021	No connectivity	0.0012	0.00 to 0.10	-	0.00 to 0.04	0.02
White Cross Offshore Windfarm	379	23	94	5.03	1.97	1.01	0.0021	No connectivity	0.0012	0.00 to 0.05	-	0.00 to 0.01	0.01
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Burbo Bank	12	7	11	0.29	0.45	0.46	0.0021	0.001 [d]	0.0012	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00

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Gwynt y Môr Offshore Wind Farm	39	27	36	0.46	0.77	0.73	0.0021	0.001 d	0.0012	0.00 to 0.01	0.00 to 0.00	0.00 to 0.00	0.00

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Robin Rigg	16	11	15	0.40	0.71	0.70	0.0021	0.002 c	0.0012	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00

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Rhyl Flats Offshore Wind Farm	12	9	11	0.41	0.71	0.65	0.0021	0.001 d	0.0012	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00

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~~Walney 1 - abundances are 1+2 combined~~	~~51~~	~~34~~	~~47~~	~~0.63~~	~~0.96~~	~~1.02~~	~~0.0021~~	~~0.002 ^{c}~~	~~0.0012~~	~~0.00 to 0.01~~	~~0.00 to 0.00~~	~~0.00 to 0.00~~	~~0.00~~

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Walney 2	Included above			0.30	1.73	0.39	0.0021	0.002[c]	0.0012	Included above			0.00

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West of Duddon Sands Offshore Wind Farm	37	242	34	1.41	2.12	2.28	0.0021	0.002 [c]	0.0012	0.00 to 0.01	0.00 to 0.03	0.00 to 0.00	0.00

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~~1.5.3.3~~1.5.3.6 As previously discussed (section 1.1.2), the Applicant is not proposing to undertake PVA on 70% displacement and 10% mortality as previously advised by the JNCC due to a lack of empirical evidence for this displacement and mortality rate scenario (see paragraph 1.2.1.8 for further justification). However, in accordance with NatureScot’s guidance (NatureScot, 2023), the Applicant has presented 30% displacement and 3% mortality within Table 1-20.

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season.b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.002.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.001.

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Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.0021	0.001 [b]	0.0012	0.00	0.00	0.00	0.02
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.00	12.26	0.00	0.0021	0.~~003~~002 [c]	0.0012	0.00	0.01	0.00	0.00

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Erebus Floating Wind Demo	1	1076	278	6.66	0.27	13.11	0.0021	No connectivity	0.0012	0.00		0.00	0.01
TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.0021	No connectivity	0.0012	0.00		0.00	0.00

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Mona Offshore Wind Project	312	386	307	4.65	8.26	4.47	0.0021	0.001 [b]	0.0012	0.01	0.00	0.00	0.~~02~~01
Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.84	8.00	6.19	0.0021	0.003 [b]	0.0012	0.01	0.06	0.02	0.01

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Morgan Offshore Wind Project Generation Assets	350	245	886	7.01	2.66	11.51	0.0021	0.002[b]	0.0012	0.01	0.00	0.01	0.01
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0021	0.~~003~~002[c]	0.0012	0.00	0.00	0.00	0.00

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Rampion Offshore Wind Farm	451	563	122	22.22	37.54	8.43	0.0021	No connectivity	0.0012	0.01	-	0.00	0.05
Rampion 2 Offshore Wind Farm	155	3	53	9.04	0.53	5.32	0.0021	No connectivity	0.0012	0.00	-	0.00	0.02

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Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.08	10.00	45.96	0.0021	0.~~003~~002[c]	0.0012	0.01	0.00	0.01	0.02
West of Orkney Windfarm	661	367	437	11.17	9.08	8.75	0.0021	No connectivity	0.0012	0.01	-	0.00	0.02

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White Cross Offshore Windfarm	379	23	94	4.93	1.97	0.98	0.0021	No connectivity	0.0012	0.01	-	0.00	0.01
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Burbo Bank	12	7	11	0.29	0.45	0.45	0.0021	0.001 ^{d}	0.0012	0.00	0.00	0.00	0.00

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Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0021	0.001 [d]	0.0012	0.00	0.00	0.00	0.00
Robin Rigg	16	11	15	0.39	0.71	0.68	0.0021	0.002 [c]	0.0012	0.00	0.00	0.00	0.00
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0021	0.001 [d]	0.0012	0.00	0.00	0.00	0.00

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Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0021	0.002 [c]	0.0012	0.00	0.00	0.00	0.00
Walney 2	Included above			0.30	1.73	0.38	0.0021	0.002 [c]	0.0012	Included above			0.00
West of Duddon Sands Offshore Wind Farm	37	242	34	1.38	2.12	2.21	0.0021	0.002 [c]	0.0012	0.00	0.00	0.00	0.00

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~~1.5.3.4~~1.5.3.7 As the predicted impact on black-legged kittiwake from Ailsa Craig SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is not considered to hinder the conservation objectives of the site, and therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

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~~1.5.3.5~~1.5.3.8 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from Rathlin Island SPA, an in-combination assessment is presented within Table 1-21 (70% displacement and 10% mortality) and Table 1-22 (30% displacement and 3% mortality).

Table 1-21 [illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season.

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.04.

d – the apportioning value during the breeding season has used that of Mona Offshore Wind Project, specifically 0.02.

Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.~~0337~~0021	~~No connectivity~~0.02[d]	0.~~0191~~0012	0.02 to 0.37	0.00 to 0.06	0.00 to 0.06	0.27	-0.12	0.08	0.29 to 0.65	0.13 to 0.19	0.09 to 0.14	0.50 to 0.98
Burbo Bank Extension Offshore Wind Farm	~~0.0337~~27	~~0.063~~376	25	0.~~0191~~00	12.26	0.00	0.0021	0.02[d]	0.0012	0.00 to 0.~~00~~06	0.~~07~~02 to ~~1.66~~0.53	0.00 to 0.~~00~~03	0.00	0.~~77~~25	0.00	0.00 to 0.~~00~~06	0.~~84~~27 to ~~2.43~~0.77	0.00 to 0.~~00~~03	0.27 to 0.87
Erebus Floating Wind Demo	~~0.0337~~1	1076	278	6.66	0.27	13.11	0.0021	No connectivity	0.~~0191~~0012	0.00 to 0.00	-	0.02 to 0.36	0.22	-	0.25	0.22 to 0.23	-	0.27 to 0.61	0.49 to 0.84

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TwinHub (Wave Hub Floating Wind Farm)	~~0.0337~~30	2	103	0.00	5.17	0.00	0.0021	No connectivity	0.~~0191~~0012	0.00 to 0.07	-	0.01 to 0.13	0.00	-	0.00	0.00 to 0.07	-	0.01 to 0.13	0.01 to 0.20
Mona Offshore Wind Project	~~0.0337~~312	386	307	4.65	8.26	4.47	0.0021	0.02 [b]	0.~~0191~~0012	0.03 to 0.72	0.02 to 0.54	0.02 to 0.40	0.~~27~~16	0.~~10~~17	0.09	0.~~30~~19 to 0.~~99~~88	0.~~12~~19 to 0.~~64~~71	0.10 to 0.48	0.48 to 2.07
Morecambe Offshore Windfarm Generation Assets	~~0.0337~~631	2074	2215	2.84	8.00	6.19	0.0021	0.063 [b]	0.~~0191~~0012	0.06 to 1.46	0.39 to 9.15	0.12 to 2.88	0.10	0.50	0.12	0.16 to 1.55	0.90 to 9.65	0.24 to 3.00	1.30 to 14.20
Morgan Offshore Wind Project Generation Assets	~~0.0337~~350	245	886	7.01	2.66	11.51	0.0021	0.04 [b]	0.~~0191~~0012	0.03 to 0.81	0.03 to 0.69	0.05 to 1.15	0.24	0.11	0.22	0.27 to 1.05	0.14 to 0.79	0.27 to 1.37	0.68 to 3.21
Ormonde Wind Farm	~~0.0337~~12	~~0.063~~32	~~0.0191~~11	~~0.00 to~~ 0.00	~~0.00 to 0.00~~1.74	~~0.00 to~~ 0.00	0.~~00~~0021	0.~~11~~04 [c]	0.~~00~~0012	0.00 to 0.~~00~~03	0.~~11~~00 to 0.~~11~~09	0.00 to 0.~~00~~01	0.00	0.07	0.00	0.00 to 0.03	0.07 to 0.16	0.00 to 0.01	0.08 to 0.20
Rampion Offshore Wind Farm	~~0.0337~~451	563	122	22.22	37.54	8.43	0.0021	No connectivity	0.~~0191~~0012	0.04 to 1.04	-	0.01 to 0.16	0.75	-	0.16	0.79 to 1.79	-	0.17 to 0.32	0.96 to 2.11

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Rampion 2 Offshore Wind Farm	~~0.0337~~155	3	53	9.04	0.53	5.32	0.0021	No connectivity	0.~~0191~~0012	0.02 to 0.36	-	0.00 to 0.07	0.30	-	0.10	0.32 to 0.66	-	0.10 to 0.17	0.42 to 0.83
Walney (3 and 4) Extension Offshore Wind Farm	~~0.0337~~797	~~0.063~~170	~~0.0191~~610	8.08	10.00	45.96	0.0021	0.04 [c]	0.0012	0.08 to 1.84	0.~~03~~02 to 0.~~75~~48	0.03 to 0.79	0.27	0.~~63~~40	0.88	0.35 to 2.11	0.~~66~~42 to ~~1.38~~0.88	0.91 to 1.67	1.68 to 4.66
West of Orkney Windfarm	~~0.0337~~661	367	437	11.17	9.08	8.75	0.0021	No connectivity	0.~~0191~~0012	0.07 to 1.53	-	0.02 to 0.57	0.38	-	0.17	0.44 to 1.90	-	0.19 to 0.74	0.63 to 2.64
White Cross Offshore Windfarm	~~0.0337~~379	23	94	4.93	1.97	0.98	0.0021	No connectivity	0.~~0191~~0012	0.04 to 0.88	-	0.01 to 0.12	0.17	-	0.02	0.20 to 1.04	-	0.02 to 0.14	0.23 to 1.18
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Burbo Bank	12	7	11	0.29	0.45	0.45	0.0021	0.02 [d]	0.0012	0.00 to 0.03	0.00 to 0.01	0.00 to 0.01	0.00	0.00	0.00	0.01 to 0.04	0.01 to 0.02	0.01 to 0.02	0.03 to 0.08
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0021	0.02 [d]	0.0012	0.00 to 0.09	0.00 to 0.04	0.00 to 0.05	0.00	0.00	0.00	0.02 to 0.11	0.02 to 0.05	0.02 to 0.06	0.05 to 0.22
Robin Rigg	16	11	15	0.39	0.71	0.68	0.0021	0.04 [c]	0.0012	0.00 to 0.04	0.00 to 0.03	0.00 to 0.02	0.00	0.00	0.00	0.01 to 0.05	0.03 to 0.06	0.01 to 0.03	0.06 to 0.14

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Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0021	0.02 d	0.0012	0.00 to 0.03	0.00 to 0.01	0.00 to 0.01	0.00	0.00	0.00	0.01 to 0.04	0.01 to 0.03	0.01 to 0.03	0.04 to 0.09
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0021	0.04 c	0.0012	0.01 to 0.12	0.00 to 0.09	0.00 to 0.06	0.00	0.00	0.00	0.03 to 0.14	0.04 to 0.13	0.02 to 0.08	0.09 to 0.35
Walney 2	Included above					0.38	0.0021	0.04 c	0.0012	Included above			0.00	0.00	0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00
West of Duddon Sands Offshore Wind Farm	37	242	34	1.38	2.12	2.21	0.0021	0.04 c	0.0012	0.00 to 0.09	0.03 to 0.68	0.00 to 0.04	0.00	0.00	0.00	0.05 to 0.13	0.11 to 0.76	0.04 to 0.09	0.21 to 0.98
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~~1.5.3.6~~1.5.3.9 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-22.

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults . All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.04.

d – the apportioning value during the breeding season has used that of Mona Offshore Wind Project, specifically 0.02.

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Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.~~0337~~0021	~~No connectivity~~0.02[d]	0.~~0191~~0012	0.05	0.01	0.01	0.27	-0.12	0.08	0.32	-0.13	0.09	0.55
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.~~0337~~00	12.26	0.~~063~~00	0.~~0191~~0021	0.~~00~~02[d]	0.~~21~~0012	0.~~00~~01	0.~~00~~07	0.~~77~~00	0.00	0.25	0.00	0.~~99~~01	0.31	0.00	0.33
Erebus Floating Wind Demo	~~0.0337~~1	1076	278	6.66	0.27	13.11	0.0021	No connectivity	0.~~0191~~0012	0.00		0.05	0.22	-	0.25	0.22	-	0.30	0.52

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TwinHub (Wave Hub Floating Wind Farm)	~~0.0337~~30	2	103	0.00	5.17	0.00	0.0021	No connectivity	0.~~0191~~0012	0.01		0.02	0.00	-	0.00	0.01	-	0.02	0.03
Mona Offshore Wind Project	~~0.0337~~312	386	307	4.65	8.26	4.47	0.0021	0.02 [b]	0.~~0191~~0012	0.09	0.07	0.05	0.~~27~~16	0.~~10~~17	0.09	0.~~36~~25	0.~~17~~23	0.14	0.62
Morecambe Offshore Windfarm Generation Assets	~~0.0337~~631	2074	2215	2.84	8.00	6.19	0.0021	0.063 [b]	0.~~0191~~0012	0.19	1.18	0.37	0.10	0.50	0.12	0.28	1.68	0.49	2.45
Morgan Offshore Wind Project Generation Assets	~~0.0337~~350	245	886	7.01	2.66	11.51	0.0021	0.04 [b]	0.~~0191~~0012	0.10	0.09	0.15	0.24	0.11	0.22	0.34	0.19	0.37	0.90
Ormonde Wind Farm	~~0.0337~~12	~~0.063~~32	~~0.0191~~11	0.00	1.74	0.00	0.0021	0.04 [c]	0.0012	0.00	0.01	0.00	0.~~11~~00	0.07	0.00	0.00	0.~~11~~08	0.00	0.09
Rampion Offshore Wind Farm	~~0.0337~~451	563	122	22.22	37.54	8.43	0.0021	No connectivity	0.~~0191~~0012	0.13		0.02	0.75	-	0.16	0.88	-	0.18	1.06
Rampion 2 Offshore Wind Farm	~~0.0337~~155	3	53	9.04	0.53	5.32	0.0021	No connectivity	0.~~0191~~0012	0.05		0.01	0.30	-	0.10	0.35	-	0.11	0.46

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Walney (3 and 4) Extension Offshore Wind Farm	~~0.0337~~797	~~0.063~~170	~~0.0191~~610	8.08	10.00	45.96	0.0021	0.04 c	0.0012	0.24	0.~~10~~06	0.10	0.27	0.~~63~~40	0.88	0.51	0.~~73~~46	0.98	1.95
West of Orkney Windfarm	~~0.0337~~661	367	437	11.17	9.08	8.75	0.0021	No connectivity	0.~~0191~~0012	0.20		0.07	0.38	-	0.17	0.57	-	0.24	0.81
White Cross Offshore Windfarm	~~0.0337~~379	23	94	4.93	1.97	0.98	0.0021	No connectivity	0.~~0191~~0012	0.11		0.02	0.17	-	0.02	0.28	~~-~~0.00	0.03	0.31
[illegible]																			
Burbo Bank	12	7	11	0.29	0.45	0.45	0.0021	0.02 d	0.0012	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.03
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0021	0.02 d	0.0012	0.01	0.00	0.01	0.02	0.02	0.01	0.03	0.02	0.02	0.07
Robin Rigg	16	11	15	0.39	0.71	0.68	0.0021	0.04 c	0.0012	0.00	0.00	0.00	0.01	0.03	0.01	0.02	0.03	0.02	0.07
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0021	0.02 d	0.0012	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.01	0.05
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0021	0.04 c	0.0012	0.02	0.01	0.01	0.02	0.04	0.02	0.04	0.05	0.03	0.11
Walney 2	Included above					0.38	0.0021	0.04 c	0.0012	Included above			0.01	0.07	0.01	0.01	0.07	0.01	0.09

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West of Duddon Sands Offshore Wind Farm	37	242	34	1.38	2.12	2.21	0.0021	0.04[c]	0.0012	0.01	0.09	0.01	0.05	0.08	0.04	0.06	0.17	0.05	0.28
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~~1.5.3.7~~1.5.3.10 As the predicted impact on black-legged kittiwake from Rathlin Island SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is not considered to hinder the conservation objectives of the site, therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects..

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~~1.5.3.8~~1.5.3.11 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from Lambay Island SPA, an in-combination assessment is presented within Table 1-23 (30% displacement and 1% mortality to 70% displacement and 10% mortality) and Table 1-24 (30% displacement and 3% mortality).

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults . All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.033.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.022.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.031.

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Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.~~006~~0065	0.022 [b]	0.~~004~~0049	0.00 to 0.07	0.00 to 0.07	0.00 to 0.01	0.05	0.14	0.02	0.06 to 0.13	0.14 to 0.21	0.02 to 0.04

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Burbo Bank Extension Offshore Wind Farm	~~0.006~~27	376	25	0.~~023~~00	~~0.004~~12.26	0.00	0.0065	0.022 d	0.0049	0.~~03~~00 to 0.~~61~~01	0.02 to 0.58	0.00 to 0.01	0.~~28~~00	0.27	0.00	0.00 to 0.~~00~~01	0.~~31~~29 to 0.~~90~~85	0.00 to 0.~~00~~01
Erebus Floating Wind Demo	~~0.006~~1	1076	278	6.66	0.27	13.11	0.0065	0.031 b	0.~~004~~0049	0.00 to 0.00	0.10 to 2.33	0.00 to 0.09	0.04	0.01	0.06	0.04 to 0.04	0.11 to 2.34	0.07 to 0.16

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TwinHub (Wave Hub Floating Wind Farm)	~~0.006~~30	2	103	0.00	5.17	0.00	0.0065	0.031[e]	0.~~004~~0049	0.00 to 0.01	0.00 to 0.00	0.00 to 0.03	0.00	0.16	0.00	0.00 to 0.01	0.16 to 0.~~17~~16	0.00 to 0.03
Mona Offshore Wind Project	~~0.006~~312	386	307	4.65	8.26	4.47	0.0065	0.038[b]	0.~~004~~0049	0.01 to 0.14	0.04 to 1.03	0.00 to 0.10	0.~~04~~03	0.~~19~~31	0.02	0.~~06~~04 to 0.~~19~~17	0.~~23~~36 to 1.~~22~~34	0.03 to 0.12

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Morecambe Offshore Windfarm Generation Assets	~~0.006~~ 631	~~0.023~~ 2074	~~0.004~~ 2215	2.84	8.00	6.19	0.0065	0.0232 [b]	0.0049	0.01 to 0.28	0.14 to 3.37	0.03 to 0.74	0.02	0.19	0.03	0.03 to 0.30	0.33 to 3.55	0.06 to 0.77
Morgan Offshore Wind Project Generation Assets	~~0.006~~ 350	245	886	7.01	2.66	11.51	0.0065	0.033 [b]	0.~~004~~0049	0.01 to 0.16	0.02 to 0.57	0.01 to 0.30	0.~~04~~05	0.09	0.~~05~~06	0.05 to 0.20	0.11 to 0.65	0.07 to 0.35

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Ormonde Wind Farm	~~0.002 1~~12	~~0.023 2~~32	~~0.001 2~~11	~~0.00 to~~ 0.00	~~0.00 to 0.00~~1.74	~~0.00 to~~ 0.00	0.~~00~~0065	0.~~04~~033 [c]	0.~~00~~0049	0.00 to 0.~~00~~01	0.~~04~~00 to 0.~~04~~07	0.00 to 0.00	0.00	0.06	0.00	0.00 to 0.01	0.06 to 0.13	0.00 to 0.00
Rampion Offshore Wind Farm	~~0.006~~451	563	122	22.22	37.54	8.43	0.0065	No connectivity	0.~~004~~0049	0.01 to 0.20	-	0.00 to 0.04	0.~~12~~14	~~-~~	0.04	0.15 to 0.35	-	0.04 to 0.08

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Rampion 2 Offshore Wind Farm	~~0.006~~ 155	3	53	9.04	0.53	5.32	0.0065	No connectivity	0.~~004~~0 049	0.00 to 0.07	-	0.00 to 0.02	0.~~05~~06	-	0.~~02~~03		0.06 to 0.13	-	0.03 to 0.04
Walney (3 and 4) Extension Offshore Wind Farm	~~0.006~~ 797	~~0.023~~ 170	~~0.004~~ 610	8.08	10.00	45.96	0.0065	0.033 [c]	0.0049	0.02 to 0.36	0.~~01~~02 to 0.~~28~~39	0.01 to 0.20	0.05	0.33	0.23	~~0.20~~	0.07 to 0.41	0.~~24~~35 to 0.~~51~~72	0.23 to 0.43

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West of Orkney Windfarm	~~0.006~~661	367	437	11.17	9.08	8.75	0.0065	No connectivity	0.~~004~~0049	0.01 to 0.29	-	0.01 to 0.15	0.~~06~~07	-	0.04	0.09 to 0.37	-	0.05 to 0.19
White Cross Offshore Windfarm	~~0.006~~379	23	94	4.93	1.97	0.98	0.0065	0.031^{e}	0.~~004~~0049	0.01 to 0.17	0.00 to 0.05	0.00 to 0.03	0.03	0.06	0.00	0.04 to 0.20	0.06 to 0.11	0.01 to 0.04

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Burbo Bank	12	7	11	0.29	0.45	0.45	0.0065	0.022 ^{d}	0.0049	0.00 to 0.01	0.00 to 0.01	0.00 to 0.00	0.00	0.01	0.00	0.00 to 0.01	0.01 to 0.02	0.00 to 0.01
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0065	0.022 ^{d}	0.0049	0.00 to 0.02	0.00 to 0.04	0.00 to 0.01	0.00	0.02	0.00	0.00 to 0.02	0.02 to 0.06	0.00 to 0.02

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Robin Rigg	16	11	15	0.39	0.71	0.68	0.0065	0.033 [c]	0.0049	0.00 to 0.01	0.00 to 0.03	0.00 to 0.01	0.00	0.02	0.00	0.00 to 0.01	0.02 to 0.05	0.00 to 0.01
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0065	0.022 [d]	0.0049	0.00 to 0.01	0.00 to 0.01	0.00 to 0.00	0.00	0.02	0.00	0.00 to 0.01	0.02 to 0.03	0.00 to 0.01

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Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0065	0.033 ^{c}	0.0049	0.00 to 0.02	0.00 to 0.08	0.00 to 0.02	0.00	0.03	0.00	0.00 to 0.03	0.04 to 0.11	0.01 to 0.02
Walney 2	Included above					0.38	0.0065	0.033 ^{c}	0.0049	Included above			0.00	0.06	0.00	0.00 to 0.00	0.06 to 0.06	0.00 to 0.00

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West of Duddon Sands Offshore Wind Farm	37	242	34	1.38	2.12	2.21	0.0065	0.033 c	0.0049	0.00 to 0.02	0.02 to 0.56	0.00 to 0.01	0.01	0.07	0.01	0.01 to 0.03	0.09 to 0.63	0.01 to 0.02
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~~1.5.3.9~~1.5.3.12 As previously discussed (section ~~1.1.2~~1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-24.

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.033.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.022.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.031.

Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.0065	0.022 [b]	0.0049	0.01	0.01	0.00	0.05	0.14	0.02	0.06	0.15	0.02	0.~~01~~23
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.~~08~~00	12.26	0.00	0.~~28~~0065	0.~~00~~022 [d]	0.0049	0.00	0.~~36~~11	0.00	0.00	0.~~08~~40	0.00	0.00	0.52	0.00	0.52
Erebus Floating Wind Demo	1	1076	278	6.66	0.27	13.11	0.0065	0.031 [b]	0.0049	0.00	0.30	0.01	0.04	0.01	0.06	0.04	0.31	0.08	0.~~00~~43

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TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.0065	0.031 [e]	0.0049	0.00	0.00 ~~0.16~~	0.00	0.00	0.16	0.00	0.00	0.~~00~~16	0.00	0.17
Mona Offshore Wind Project	312	386	307	4.65	8.26	4.47	0.0065	0.038 [b]	0.0049	0.02	0.13	0.01	0.~~05~~03	0.~~19~~31	0.02	0.~~07~~05	0.~~32~~45	0.04	0.~~02~~53
Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.84	8.00	6.19	0.0065	0.0232 [b]	0.0049	0.04	0.43	0.09	0.02	0.19	0.03	0.05	0.62	0.13	0.~~04~~80
Morgan Offshore Wind Project Generation Assets	350	245	886	7.01	2.66	11.51	0.0065	0.033 [b]	0.0049	0.02	0.07	0.04	0.05	0.09	0.06	0.07	0.16	0.09	0.~~02~~32
Ormonde Wind Farm	~~0.00~~12	32	11	0.00	~~0.00~~1.74	0.00	0.~~04~~0065	0.~~00~~033 [c]	0.~~00~~0049	0.~~04~~00	0.~~00~~01	0.00	0.00	0.~~00~~06	0.00	0.00	0.07	0.00	0.07

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Rampion Offshore Wind Farm	451	563	122	22.22	37.54	8.43	0.0065	No connectivity	0.0049	0.03	-	0.01	0.14	-	0.04	0.17	-	0.05	0.~~03~~22
Rampion 2 Offshore Wind Farm	155	3	53	9.04	0.53	5.32	0.0065	No connectivity	0.0049	0.01	-	0.00	0.06	-	0.03	0.07	-	0.03	0.~~01~~10
Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.08	10.00	45.96	0.0065	0.033 c	0.0049	0.05	0.~~04~~05	0.03	0.05	0.~~23~~33	0.23	0.10	0.~~27~~38	0.25	0.~~05~~73
West of Orkney Windfarm	661	367	437	11.17	9.08	8.75	0.0065	No connectivity	0.0049	0.04	-	0.02	0.07	-	0.04	0.11	-	0.06	0.~~04~~17

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White Cross Offshore Windfarm	379	23	94	4.93	1.97	0.98	0.0065	0.031 [e]	0.0049	0.02	0.01	0.00	0.03	0.06	0.00	0.05	0.07	0.01	0.~~02~~13
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Burbo Bank	12	7	11	0.29	0.45	0.45	0.0065	0.022 [d]	0.0049	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.02
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0065	0.022 [d]	0.0049	0.00	0.01	0.00	0.00	0.02	0.00	0.01	0.02	0.00	0.03
Robin Rigg	16	11	15	0.39	0.71	0.68	0.0065	0.033 [c]	0.0049	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.03
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0065	0.022 [d]	0.0049	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.02
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0065	0.033 [c]	0.0049	0.00	0.01	0.00	0.00	0.03	0.00	0.01	0.04	0.01	0.06
Walney 2	Included above					0.38	0.0065	0.033 [c]	0.0049	Included above			0.00	0.06	0.00	0.00	0.06	0.00	0.06

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West of Duddon Sands Offshore Wind Farm	37	242	34	1.38	2.12	2.21	0.0065	0.033 ^{c}	0.0049	0.00	0.07	0.00	0.01	0.07	0.01	0.01	0.14	0.01	0.17
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~~1.5.3.10~~1.5.3.13 As the predicted impact on black-legged kittiwake from Ailsa Craig SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is note considered to hinder the conservation objectives of the site, and therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

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~~1.5.3.11~~1.5.3.14 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from Ireland’s Eye SPA, an in-combination assessment is presented within Table 1-25 (30% displacement and 1% mortality to 70% displacement and 10% mortality) and Table 1-26 (30% displacement and 3% mortality).

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.013.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.01.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.016.

Awel y Môr Offshore Wind Farm	162	46	45	8.31	6.20	4.54	0.~~0013~~0015	0.01 [b]	0.~~001~~0011	0.00 to 0.~~02~~07	0.00 to 0.~~03~~07	0.00 to 0.~~00~~01	0.~~01~~05	0.~~06~~14	0.~~00~~02	0.01 to 0.03	0.06 to 0.09	0.00 to 0.01
Burbo Bank Extension Offshore Wind Farm	~~0.001 3~~27	376	25	0.~~010~~00	~~0.001~~12.26	0.00	0.0015	0.01 [d]	0.0011	0.~~01~~00 to 0.~~27~~01	0.02 to 0.58	0.00 to 0.01	0.~~13~~00	0.27	0.00	0.00 to 0.00	0.~~14~~13 to 0.~~40~~39	0.00 to 0.00

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Erebus Floating Wind Demo	~~0.0013~~1	1076	278	6.80	0.27	13.49	0.0015	0.016 [b]	0.~~001~~0011	0.00 to 0.00	0.~~05~~10 to ~~1.20~~2.33	0.00 to 0.~~02~~09	0.~~01~~04	0.01	0.06	0.01 to 0.01	0.06 to 1.21	0.02 to 0.04
TwinHub (Wave Hub Floating Wind Farm)	~~0.0013~~30	2	103	0.00	5.17	0.00	0.0015	0.016 [e]	0.~~001~~0011	0.00 to 0.~~00~~01	0.00 to 0.00	0.00 to 0.~~01~~03	0.00	0.~~08~~16	0.00	0.00 to 0.00	0.08 to 0.09	0.00 to 0.01

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Mona Offshore Wind Project	~~0.001 3~~312	386	307	4.75	8.26	4.60	0.0015	0.016 [b]	0.~~001~~0011	0.00 to 0.02	0.00 to 0.03	0.~~02~~00 to 0.~~43~~00	0.03	0.31	~~0.00 to~~ 0.02	0.01 to 0.04	0.~~10~~15 to 0.~~51~~56	0.01 to 0.03
Morecambe Offshore Windfarm Generation Assets	~~0.001 3~~631	~~0.010~~ 2074	~~0.001~~ 2215	~~0.00 to 0.06~~2.90	~~0.06 to 1.51~~8.00	6.37	0.0015	0.0104 [b]	0.0011	0.00 to 0.00	0.01 to 0.~~17~~26	0.00 to 0.00	0.~~08~~02	0.~~01~~19	0.03	0.01 to 0.07	0.15 to 1.59	0.01 to 0.17

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Morgan Offshore Wind Project Generation Assets	~~0.001~~ ~~3~~350	245	886	7.16	2.66	11.84	0.0015	0.013 [b]	0.~~001~~0 011	0.00 to 0.~~04~~00	0.~~01~~05 to ~~0.22~~1.20	0.00 to 0.~~07~~02	0.~~01~~05	0.~~03~~09	0.~~01~~06	0.01 to 0.05	0.04 to 0.26	0.02 to 0.08
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0021	0.~~0104~~ 013 [c]	0.0012	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~00~~01	0.00	0.06	0.00	0.00 to 0.00	0.02 to 0.03	0.00 to 0.00

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Rampion Offshore Wind Farm	~~0.0013~~451	563	122	22.69	37.54	8.67	0.0015	No connectivity	0.~~001~~0011	0.00 to 0.~~05~~03	-	0.00 to 0.~~01~~02	0.~~01~~14	-	0.~~01~~04	0.04 to 0.08	-	0.01 to 0.02
Rampion 2 Offshore Wind Farm	~~0.0013~~155	3	53	9.24	0.53	5.47	0.0015	No connectivity	0.~~001~~0011	0.00 to 0.~~02~~06	-	0.~~00~~01 to 0.~~00~~17	0.~~01~~06	-	0.~~01~~03	0.01 to 0.03	-	0.01 to 0.01

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Walney (3 and 4) Extension Offshore Wind Farm	~~0.001 3~~797	~~0.010~~ 170	~~0.001~~ 610	~~0.00 to 0.08~~8.25	~~0.01 to 0.12~~10.00	~~0.00 to 0.05~~47.30	0.~~01~~0015	0.~~10~~013 c	0.0011	0.00 to 0.04	0.01 to 0.22	0.00 to 0.07	0.05	0.33	0.23	0.02 to 0.09	0.~~11~~14 to 0.~~23~~28	0.05 to 0.10
West of Orkney Windfarm	~~0.001 3~~661	367	437	11.40	9.08	9.00	0.0015	No connectivity	0.~~001~~0011	0.00 to 0.00	-	0.00 to 0.00	~~0.00 to~~ 0.07		0.~~00 to 0.03~~04	0.02 to 0.08	-	0.01 to 0.04

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White Cross Offshore Windfarm	~~0.001~~ ~~3~~379	23	94	5.03	1.97	1.01	0.0015	0.016 [e]	0.~~001~~0011	0.00 to 0.~~04~~05	0.00 to 0.~~03~~00	0.00 to 0.01	~~0.01~~	0.03	0.~~00~~06	0.00	0.01 to 0.05	0.03 to 0.06	0.00 to 0.01
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Burbo Bank	12	7	11	0.29	0.45	0.46	0.0015	0.01 [d]	0.0011	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00		0.00	0.01	0.00	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00

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Gwynt y Môr Offshore Wind Farm	39	27	36	0.46	0.77	0.73	0.0015	0.01[d]	0.0011	0.00 to 0.00	0.00 to 0.02	0.00 to 0.00	0.00	0.02	0.00	0.00 to 0.00	0.01 to 0.03	0.00 to 0.00
Robin Rigg	16	11	15	0.40	0.71	0.70	0.0015	0.013[c]	0.0011	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.00	0.02	0.00	0.00 to 0.00	0.01 to 0.02	0.00 to 0.00

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Rhyl Flats Offshore Wind Farm	12	9	11	0.41	0.71	0.65	0.0015	0.01 d	0.0011	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.00	0.02	0.00	0.00 to 0.00	0.01 to 0.01	0.00 to 0.00
Walney 1 - abundances are 1+2 combined	51	34	47	0.63	0.96	1.02	0.0015	0.013 c	0.0011	0.00 to 0.01	0.00 to 0.03	0.00 to 0.00	0.00	0.03	0.00	0.00 to 0.01	0.01 to 0.04	0.00 to 0.00

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Walney 2	Included above					0.39	0.0065	0.013 [c]	0.0015	Included above			0.00	0.06	0.00	0.00 to 0.00	0.02 to 0.02	0.00 to 0.00
West of Duddon Sands Offshore Wind Farm	37	242	34	1.41	2.12	2.28	0.0015	0.013 [c]	0.0011	0.00 to 0.00	0.01 to 0.22	0.00 to 0.00	0.01	0.07	0.01	0.00 to 0.01	0.04 to 0.25	0.00 to 0.00

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~~1.5.3.12~~1.5.3.15 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within ~~Table 1-25Table 1-19~~Table 1-26.

[illegible] 1 [illegible] Ireland's Eye SPA – [illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults . All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.013.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.01.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.016.

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
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Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.~~0013~~0015	0.01 [b]	0.~~001~~0011	0.00	0.00	0.00	0.01	0.06	0.00	0.01	0.07	0.01	0.09
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.~~0013~~00	12.26	0.~~010~~00	0.~~001~~0015	0.01 [d]	0.0011	0.00	0.~~04~~03	0.00	0.00	0.~~13~~12	0.00	0.00	0.16	0.00	0.16
Erebus Floating Wind Demo	~~0.0013~~1	1076	278	6.66	0.27	13.11	0.0015	0.016 [b]	0.~~001~~0011	0.00	0.15	0.00	0.01	0.00	0.01	0.01	0.16	0.02	0.19
TwinHub (Wave Hub Floating Wind Farm)	~~0.0013~~30	2	103	0.00	5.17	0.00	0.0015	0.016 [e]	0.~~001~~0011	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08	0.00	0.08
Mona Offshore Wind Project	~~0.0013~~312	386	307	4.65	8.26	4.47	0.0015	0.016 [b]	0.~~001~~0011	0.00	0.06	0.00	0.01	0.13	0.00	0.01	0.19	0.01	0.21
Morecambe Offshore Windfarm Generation Assets	~~0.0013~~631	~~0.010~~2074	~~0.001~~2215	2.84	8.00	6.19	0.0015	0.0104 [b]	0.0011	0.01	0.19	0.02	0.00	0.08	0.01	0.01	0.28	0.03	0.32
Morgan Offshore Wind Project Generation Assets	~~0.0013~~350	245	886	7.01	2.66	11.51	0.0015	0.013 [b]	0.~~001~~0011	0.00	0.03	0.01	0.01	0.03	0.01	0.02	0.06	0.02	0.10
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0021	0.~~0104~~013 [c]	0.0012	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.~~02~~03	0.00	0.03
Rampion Offshore Wind Farm	~~0.0013~~451	563	122	22.22	37.54	8.43	0.0015	No connectivity	0.~~001~~0011	0.01	-	0.00	0.03	-	0.01	0.04	-	0.01	0.05
Rampion 2 Offshore Wind Farm	~~0.0013~~155	3	53	9.04	0.53	5.32	0.0015	No connectivity	0.~~001~~0011	0.00	-	0.00	0.01	-	0.01	0.02	-	0.01	0.02
Walney (3 and 4) Extension Offshore Wind Farm	~~0.0013~~797	~~0.010~~170	~~0.001~~610	~~0.01~~8.08	10.00	45.96	0.0015	0.013 [c]	0.0011	0.01	0.02	0.01	0.01	0.~~10~~13	0.05	0.02	0.~~12~~15	0.06	0.23
West of Orkney Windfarm	~~0.0013~~661	367	437	11.17	9.08	8.75	0.0015	No connectivity	0.~~001~~0011	0.01	-	0.00	0.02	-	0.01	0.03	-	0.01	0.04
White Cross Offshore Windfarm	~~0.0013~~379	23	94	4.93	1.97	0.98	0.0015	0.016 [e]	0.~~001~~0011	0.01	0.00	0.00	0.01	0.03	0.00	0.01	0.03	0.00	0.05
[illegible]																			
Burbo Bank	12	7	11	0.29	0.45	0.45	0.0015	0.01 [d]	0.0011	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0015	0.01 [d]	0.0011	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01

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Robin Rigg	16	11	15	0.39	0.71	0.68	0.0015	0.013 c	0.0011	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0015	0.01 d	0.0011	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0015	0.013 c	0.0011	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.02
Walney 2	Included above					0.38	0.0065	0.013 c	0.0015	Included above			0.00	0.02	0.00	0.00	0.02	0.00	0.02
West of Duddon Sands Offshore Wind Farm	37	242	34	1.38	2.12	2.21	0.0015	0.013 c	0.0011	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.06	0.00	0.06
[illegible]										0.0	0.~~49~~	0.0	0.1	0.~~63~~0	0.~~12~~1	0.1	1	0.1	1.~~12~~0
[illegible]										0.01	0.~~11~~1	0.01	0.0	0.~~14~~1	0.0	0.0	0.~~25~~	0.0	0

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~~1.5.3.13~~1.5.3.16 As the predicted impact on black-legged kittiwake from Ireland's Eye SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is not considered to hinder the conservation objectives of the site, and therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

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~~1.5.3.14~~1.5.3.17 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from Howth Head Coast SPA, an in-combination assessment is presented within Table 1-27 (30% displacement and 1% mortality to 70% displacement and 10% mortality) and Table 1-28 (30% displacement and 3% mortality).

Table 1-[illegible]

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~~Awel y Môr Offshore Wind Farm~~	~~0.003~~	~~0.020~~	~~0.002~~	~~0.00 to 0.04~~	~~0.00 to 0.06~~	~~0.00 to 0.01~~	~~0.03~~	~~0.12~~	~~0.01~~	~~0.03 to 0.07~~	~~0.13 to 0.19~~	~~0.01 to 0.02~~
~~Burbo Bank Extension Offshore Wind Farm~~	~~0.003~~	~~0.024~~	~~0.002~~		~~0.03 to 0.63~~		~~0.00~~	~~0.29~~	~~0.00~~	~~0.00 to 0.00~~	~~0.32 to 0.92~~	~~0.00 to 0.00~~
~~Erebus Floating Wind Demo~~	~~0.003~~	~~0.033~~	~~0.002~~	~~0.00 to 0.00~~	~~0.11 to 2.48~~	~~0.00 to 0.05~~	~~0.02~~	~~0.01~~	~~0.03~~	~~0.02 to 0.02~~	~~0.12 to 2.49~~	~~0.04 to 0.09~~
~~TwinHub (Wave Hub Floating Wind Farm)~~	~~0.003~~	~~0.033~~	~~0.002~~	~~0.00 to 0.01~~	~~0.00 to 0.00~~	~~0.00 to 0.02~~	~~0.00~~	~~0.17~~	~~0.00~~	~~0.00 to 0.01~~	~~0.17 to 0.18~~	~~0.00 to 0.02~~
~~Mona Offshore Wind Project~~	~~0.003~~	~~0.018~~	~~0.002~~	~~0.00 to 0.08~~	~~0.02 to 0.49~~	~~0.00 to 0.06~~	~~0.02~~	~~0.09~~	~~0.01~~	~~0.03 to 0.11~~	~~0.11 to 0.58~~	~~0.01 to 0.07~~
~~Morecambe Offshore Windfarm Generation Assets~~	~~0.003~~	~~0.024~~	~~0.002~~	~~0.01 to 0.16~~	~~0.15 to 3.46~~	~~0.02 to 0.41~~	~~0.01~~	~~0.19~~	~~0.01~~	~~0.02 to 0.17~~	~~0.34 to 3.65~~	~~0.03 to 0.42~~
~~Morgan Offshore Wind Project Generation Assets~~	~~0.003~~	~~0.033~~	~~0.002~~	~~0.00 to 0.09~~	~~0.02 to 0.46~~	~~0.01 to 0.16~~	~~0.02~~	~~0.07~~	~~0.03~~	~~0.03 to 0.11~~	~~0.09 to 0.53~~	~~0.04 to 0.19~~
~~Ormonde Wind Farm~~	~~0.0021~~	~~0.0238~~	~~0.0012~~	~~0.00 to 0.00~~	~~0.00 to 0.00~~	~~0.00 to 0.00~~	~~0.00~~	~~0.04~~	~~0.00~~	~~0.00 to 0.00~~	~~0.04 to 0.04~~	~~0.00 to 0.00~~
~~Rampion Offshore Wind Farm~~	~~0.003~~	~~No connectivity~~	~~0.002~~	~~0.00 to 0.11~~		~~0.00 to 0.02~~	~~0.07~~	~~-~~	~~0.02~~	~~0.08 to 0.19~~		~~0.02 to 0.05~~
~~Rampion 2 Offshore Wind Farm~~	~~0.003~~	~~No connectivity~~	~~0.002~~	~~0.00 to 0.04~~		~~0.00 to 0.01~~	~~0.03~~	~~-~~	~~0.01~~	~~0.03 to 0.07~~		~~0.01 to 0.02~~
~~Walney (3 and 4) Extension Offshore Wind Farm~~	~~0.003~~	~~0.024~~	~~0.002~~	~~0.01 to 0.20~~	~~0.01 to 0.28~~	~~0.00 to 0.11~~	~~0.03~~	~~0.24~~	~~0.11~~	~~0.04 to 0.23~~	~~0.25 to 0.52~~	~~0.13 to 0.24~~
~~West of Orkney Windfarm~~	~~0.003~~	~~No connectivity~~	~~0.002~~	~~0.01 to 0.16~~		~~0.00 to 0.08~~	~~0.03~~	~~-~~	~~0.02~~	~~0.05 to 0.20~~		~~0.03 to 0.10~~
~~White Cross Offshore Windfarm~~	~~0.003~~	~~0.033~~	~~0.002~~	~~0.00 to 0.09~~	~~0.00 to 0.05~~	~~0.00 to 0.02~~	~~0.02~~	~~0.06~~	~~0.00~~	~~0.02 to 0.11~~	~~0.07 to 0.12~~	~~0.00 to 0.02~~
[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]										[illegible]		

~~1.5.3.15 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-27.~~

[illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.027.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.02.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.033.

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.~~003~~0015	0.~~02~~002 b	0.~~002~~0011	0.~~01~~00 to 0.04	0.~~01~~00 to 0.06	0.00 to 0.01	0.03	0.12	0.01	0.03 to 0.07	0.13 to 0.19	0.01 to 0.02	0.17 to 0.28
Burbo Bank Extension Offshore Wind Farm	~~0.003~~27	~~0.024~~376	25	0.~~002~~00	12.26	0.~~08~~00	0.0015	0.02 d	0.0011	0.00 to 0.01	0.~~29~~02 to 0.53	0.00 to 0.00	0.00	0.~~37~~25	0.00	0.00 to 0.01	0.27 to 0.77	0.00 to 0.00	0.36 to 1.05
Erebus Floating Wind Demo	~~0.003~~1	1076	278	6.66	0.27	13.11	0.0015	0.033 b	0.~~002~~0011	0.00 to 0.00	0.~~32~~11 to 2.48	0.~~01~~00 to 0.05	0.02	0.01	0.04	0.02 to 0.02	0.~~33~~12 to 2.49	0.04 to 0.09	0.18 to 2.60
TwinHub (Wave Hub Floating Wind Farm)	~~0.003~~30	~~0.033~~2	~~0.002~~103	0.00	5.17	0.00	0.0015	0.033 e	0.0011	0.00 to 0.01	0.00 to 0.00	0.00 to 0.02	0.00	0.17	0.00	0.00 to 0.01	0.17 to 0.18	0.00 to 0.02	0.17 to 0.20
Mona Offshore Wind Project	~~0.003~~312	386	307	4.65	8.26	4.47	0.0015	0.018 b	0.~~002~~0011	0.~~01~~00 to 0.08	0.02 to 0.49	0.00 to 0.06	0.02	0.15	0.01 ~~0.03~~	0.02 to 0.09	0.17 to 0.64	0.01 to 0.07	0.~~04~~20 to 0.80 ~~0.15~~ ~~0.02~~
Morecambe Offshore Windfarm Generation Assets	~~0.003~~631	~~0.024~~2074	~~0.002~~2215	2.84	8.00	6.19	0.0015	0.0238 b	0.0011	0.01 to 0.16	0.15 to 3.46	0.02 to 0.41 ~~0.44~~ ~~0.05~~	0.01	0.19	0.02	0.02 to 0.17	0.34 to 3.65	0.03 to 0.42	0.~~63~~39 to 4.24 ~~0.07~~
Morgan Offshore Wind Project Generation Assets	~~0.003~~350	~~0.033~~245	~~0.002~~886	~~0~~7.01	~~0.06~~2.66	11.51	0.0015	0.027 b	0.0011	0.00 to 0.09	0.02 to 0.46	0.01 to 0.16	0.03	0.07	0.03	0.03 to 0.11	0.09 to 0.53	0.04 to 0.19	0.~~13~~16 to 0.84 ~~0.05~~
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0021	0.~~0238~~027 c	0.0012	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.00	0.~~04~~05	0.00	0.00 to 0.00	0.~~04~~05 to 0.05	0.00 to 0.00	0.05 to 0.06
Rampion Offshore Wind Farm	~~0.003~~451	563	122	22.22	37.54	8.43	0.0015	No connectivity	0.~~002~~0011	0.~~01~~00 to 0.11	0.00 to 0.00	0.00 to 0.02	0.08	-	0.02	0.~~09~~08 to 0.19	-	0.~~03~~02 to 0.05	0.11 to 0.24
Rampion 2 Offshore Wind Farm	~~0.003~~155	3	53	9.04	0.53	5.32	0.0015	No connectivity	0.~~002~~0011	0.00 to 0.04	0.00 to 0.00	0.00 to 0.01	0.03	-	0.01	0.~~04~~03 to 0.07	-	0.01 to 0.02	0.05 to 0.10

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Walney (3 and 4) Extension Offshore Wind Farm	~~0.003~~797	~~0.024~~170	~~0.002~~610	~~0.03~~8.08	~~0.04~~10.00	45.96	0.0015	0.027 c	0.0011	0.01 to 0.20	0.01 to 0.32	0.00 to 0.11	0.03	0.~~24~~27	0.12	0.04 to 0.23	0.28 to 0.59	0.13 to 0.24	0.45 to 1.05 ~~0.27~~ ~~0.14~~
West of Orkney Windfarm	~~0.003~~661	367	437	11.17	9.08	8.75	0.0015	No connectivity	0.~~002~~0011 ~~0.02~~	0.01 to 0.16	0.00 to 0.00	0.00 to 0.08	0.04		0.02	0.~~06~~05 to 0.20	0.00 to 0.00	0.03 to 0.10	0.07 to 0.31
White Cross Offshore Windfarm	~~0.003~~379	23	94	4.93	1.97	0.98	0.0015	0.033 e	0.~~002~~0011	0.~~01~~00 to 0.09	0.~~01~~00 to 0.05	0.00 to 0.02	0.02	0.06	0.00	0.~~03~~02 to 0.11	0.07 to 0.12	0.00 to 0.02	0.09 to 0.25
[illegible]																			
Burbo Bank	12	7	11	0.29	0.45	0.45	0.0015	0.02 d	0.0011	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.02	0.06	0.00	0.00 to 0.00	0.01 to 0.02	0.00 to 0.00	0.01 to 0.03
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0015	0.02 d	0.0011	0.00 to 0.01	0.00 to 0.04	0.00 to 0.01	0.00	0.01	0.00	0.00 to 0.01	0.02 to 0.05	0.00 to 0.01	0.02 to 0.07
Robin Rigg	16	11	15	0.39	0.71	0.68	0.0015	0.027 c	0.0011	0.00 to 0.00	0.00 to 0.02	0.00 to 0.00	0.00	0.02	0.00	0.00 to 0.01	0.02 to 0.04	0.00 to 0.00	0.02 to 0.05
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0015	0.02 d	0.0011	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.00	0.02	0.00	0.00 to 0.00	0.01 to 0.03	0.00 to 0.00	0.02 to 0.03
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0015	0.027 c	0.0011	0.00 to 0.01	0.00 to 0.06	0.00 to 0.01	0.00	0.01	0.00	0.00 to 0.01	0.03 to 0.09	0.00 to 0.01	0.03 to 0.12
Walney 2	Included above					0.38	0.0065	0.027 c	0.0015	Included above			0.00	0.05	0.00	0.00 to 0.00	0.05 to 0.05	0.00 to 0.00	0.05 to 0.05
West of Duddon Sands Offshore Wind Farm	37	242	34	1.38	2.12	2.21	0.0015	0.027 c	0.0011	0.00 to 0.01	0.02 to 0.46	0.00 to 0.01	0.00	0.06	0.01	0.01 to 0.01	0.08 to 0.51	0.01 to 0.01	0.09 to 0.54
[illegible]								[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]								[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~[illegible]~~

1.5.3.18 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-28.

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.027.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.02.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.033.

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.0015	0.02 [b]	0.0011	0.01	0.01	0.00	0.03	0.12	0.01	0.03	0.13	0.01	0.18
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.00	12.26	0.00	0.0015	0.02 [d]	0.0011	0.00	0.07	0.00	0.00	0.25	0.00	0.00	0.31	0.00	0.31
Erebus Floating Wind Demo	1	1076	278	6.66	0.27	13.11	0.0015	0.033 [b]	0.0011	0.00	0.32	0.01	0.02	0.01	0.04	0.02	0.33	0.04	0.39
TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.0015	0.033 [e]	0.0011	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	0.00	0.17
Mona Offshore Wind Project	312	386	307	4.65	8.26	4.47	0.0015	0.018 [b]	0.0011	0.01	0.06	0.01	0.02	0.15	0.01	0.03	0.21	0.02	0.26
Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.84	8.00	6.19	0.0015	0.0238 [b]	0.0011	0.02	0.44	0.05	0.01	0.19	0.02	0.03	0.63	0.07	0.73
Morgan Offshore Wind Project Generation Assets	350	245	886	7.01	2.66	11.51	0.0015	0.027 [b]	0.0011	0.01	0.06	0.02	0.03	0.07	0.03	0.04	0.13	0.05	0.22
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0021	0.027 [c]	0.0012	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.06
Rampion Offshore Wind Farm	451	563	122	22.22	37.54	8.43	0.0015	No connectivity	0.0011	0.01		0.00	0.08	-	0.02	0.09	-	0.03	0.12
Rampion 2 Offshore Wind Farm	155	3	53	9.04	0.53	5.32	0.0015	No connectivity	0.0011	0.00		0.00	0.03	-	0.01	0.04	-	0.02	0.05
Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.08	10.00	45.96	0.0015	0.027 [c]	0.0011	0.03	0.04	0.01	0.03	0.27	0.12	0.05	0.31	0.14	0.50
West of Orkney Windfarm	661	367	437	11.17	9.08	8.75	0.0015	No connectivity	0.0011	0.02		0.01	0.04		0.02	0.06		0.03	0.10
White Cross Offshore Windfarm	379	23	94	4.93	1.97	0.98	0.0015	0.033 [e]	0.0011	0.01	0.01	0.00	0.02	0.06	0.00	0.03	0.07	0.00	0.11

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
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[illegible]																			
Burbo Bank	12	7	11	0.29	0.45	0.45	0.0015	0.02 ^{d}	0.0011	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0015	0.02 ^{d}	0.0011	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.03
Robin Rigg	16	11	15	0.39	0.71	0.68	0.0015	0.027 ^{c}	0.0011	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.03
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0015	0.02 ^{d}	0.0011	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.02
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0015	0.027 ^{c}	0.0011	0.00	0.01	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.04
Walney 2	Included above					0.45	0.0015	0.02 ^{d}	0.0011	Included above			0.00	0.05	0.00	0.00	0.05	0.00	0.05
West of Duddon Sands Offshore Wind Farm	37	242	34	0.45	0.77	0.71	0.0015	0.02 ^{d}	0.0011	0.00	0.06	0.00	0.00	0.06	0.01	0.01	0.12	0.01	0.13
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.16~~1.5.3.19 As the predicted impact on black-legged kittiwake from Howth Head Coast SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is not considered to hinder the conservation objects of the site, and therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

~~1.5.3.17~~1.5.3.20 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from Wicklow Head SPA, an in-combination assessment is presented within Table 1-29 (30% displacement and 1% mortality to 70% displacement and 10% mortality) and Table 1-30 (30% displacement and 3% mortality).

[illegible]

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~Awel y Môr Offshore Wind Farm~~	~~0.008~~	~~0.005~~	~~0.006~~	~~0.00 to 0.09~~	~~0.00 to 0.02~~	~~0.00 to 0.02~~	~~0.07~~	~~0.03~~	~~0.03~~	~~0.07 to 0.15~~	~~0.03 to 0.05~~	~~0.03 to 0.04~~
~~Burbo Bank Extension Offshore Wind Farm~~	~~0.008~~	~~0.004~~	~~0.006~~		~~0.00 to 0.11~~		~~0.00~~	~~0.05~~	~~0.00~~	~~0.00 to 0.00~~	~~0.05 to 0.15~~	~~0.00 to 0.00~~
~~Erebus Floating Wind Demo~~	~~0.008~~	~~0.013~~	~~0.006~~	~~0.00 to 0.00~~	~~0.04 to 0.98~~	~~0.00 to 0.11~~	~~0.05~~	~~-~~	~~0.08~~	~~0.05 to 0.05~~	~~0.05 to 0.98~~	~~0.08 to 0.19~~
~~TwinHub (Wave Hub Floating Wind Farm)~~	~~0.008~~	~~0.013~~	~~0.006~~	~~0.00 to 0.02~~	~~0.00 to 0.00~~	~~0.00 to 0.04~~	~~0.00~~	~~-~~	~~0.00~~	~~0.00 to 0.02~~	~~0.07 to 0.07~~	~~0.00 to 0.04~~
~~Mona Offshore Wind Project~~	~~0.008~~	~~0.006~~	~~0.006~~	~~0.01 to 0.17~~	~~0.01 to 0.16~~	~~0.01 to 0.13~~	~~0.06~~	~~0.03~~	~~0.03~~	~~0.07 to 0.23~~	~~0.04 to 0.19~~	~~0.03 to 0.15~~
~~Morecambe Offshore Windfarm Generation Assets~~	~~0.008~~	~~0.004~~	~~0.006~~	~~0.01 to 0.35~~	~~0.02 to 0.58~~	~~0.04 to 0.90~~	~~0.02~~	~~0.03~~	~~0.04~~	~~0.04 to 0.37~~	~~0.06 to 0.61~~	~~0.08 to 0.94~~
~~Morgan Offshore Wind Project Generation Assets~~	~~0.008~~	~~0.004~~	~~0.006~~	~~0.01 to 0.19~~	~~0.00 to 0.07~~	~~0.02 to 0.36~~	~~0.06~~	~~0.01~~	~~0.07~~	~~0.06 to 0.25~~	~~0.01 to 0.08~~	~~0.08 to 0.43~~
~~Ormonde Wind Farm~~	~~0.0021~~	~~0.004~~	~~0.0012~~	~~0.00 to 0.00~~	~~0.00 to 0.00~~	~~0.00 to 0.00~~	~~0.00~~	~~0.01~~	~~0.00~~	~~0.00 to 0.00~~	~~0.01 to 0.01~~	~~0.00 to 0.00~~
~~Rampion Offshore Wind Farm~~	~~0.008~~	~~No connectivity~~	~~0.006~~	~~0.01 to 0.25~~		~~0.00 to 0.05~~	~~0.18~~	~~-~~	~~0.05~~	~~0.19 to 0.43~~		~~0.05 to 0.10~~
~~Rampion 2 Offshore Wind Farm~~	~~0.008~~	~~No connectivity~~	~~0.006~~	~~0.00 to 0.09~~		~~0.00 to 0.02~~	~~0.07~~	~~-~~	~~0.03~~	~~0.08 to 0.16~~		~~0.03 to 0.05~~
~~Walney (3 and 4) Extension Offshore Wind Farm~~	~~0.008~~	~~0.004~~	~~0.006~~	~~0.02 to 0.44~~	~~0.00 to 0.05~~	~~0.01 to 0.25~~	~~0.06~~	~~0.04~~	~~0.28~~	~~0.08 to 0.50~~	~~0.04 to 0.09~~	~~0.29 to 0.52~~
~~West of Orkney Windfarm~~	~~0.008~~	~~No connectivity~~	~~0.006~~	~~0.02 to 0.36~~		~~0.01 to 0.18~~	~~0.09~~	~~-~~	~~0.05~~	~~0.10 to 0.45~~		~~0.06 to 0.23~~
~~White Cross Offshore Windfarm~~	~~0.008~~	~~0.013~~	~~0.006~~	~~0.01 to 0.21~~	~~0.00 to 0.02~~	~~0.00 to 0.04~~	~~0.04~~	~~0.03~~	~~0.01~~	~~0.05 to 0.25~~	~~0.03 to 0.05~~	~~0.01 to 0.04~~
[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]										[illegible]		

~~1.5.3.18 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-29.~~

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults . All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.004.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.05.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.013.

~~Plan or project~~															
Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.008	0.005 [b]	0.006	0.~~01~~00 to 0.09	0.00 to 0.02	0.00 to 0.02	0.07	0.03	0.03
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.00	12.26	0.00	0.008	0.~~004~~005 [d]	0.006	0.00 to 0.01	0.01 to 0.13	0.00 to 0.01	0.00	0.~~05~~06	0.00
Erebus Floating Wind Demo	1	1076	278	6.66	0.27	13.11	0.008	0.013 [b]	0.006	0.00 to 0.00	0.~~13~~04 to 0.98	0.~~01~~00 to 0.11	0.05	~~-~~0.00	0.08
TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.008	0.013 [e]	0.006	0.00 to 0.02	0.00 to 0.00 ~~0.01~~	0.00 to 0.04	~~-~~0.00	0.~~00~~07	0.00
Mona Offshore Wind Project	312	386	307	4.65	8.26	4.47	0.008	0.006 [b]	0.006	0.~~02~~01 to 0.17	0.~~02~~01 to 0.16	0.~~02~~01 to 0.13	0.~~06~~04	0.~~03~~05	0.03 ~~0.09~~
Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.84	8.00	6.19	0.008	0.004 [b]	0.006	0.01 to 0.35	0.02 to 0.58	0.04 to 0.90 ~~0.07~~	0.02	0.03	0.04
Morgan Offshore Wind Project Generation Assets	350	245	886	7.01	2.66	11.51	0.008	0.004 [b]	0.006 ~~0.02~~	0.01 to 0.19	0.~~05~~00 to 0.07	0.02 to 0.36	0.06	0.01	0.07
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0021	0.004 [c]	0.0012	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00	0.01	0.00
Rampion Offshore Wind Farm	451	563	122	22.22	37.54	8.43	0.008	No connectivity	0.006 ~~0.03~~ ~~-~~	0.01 to 0.25		0.00 to 0.05	0.18	-	0.05
Rampion 2 Offshore Wind Farm	155	3	53	9.04	0.53	5.32	0.008	No connectivity	0.006	0.~~01~~00 to 0.09	-	0.00 to 0.02	0.07	-	0.03
Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.08	10.00	45.96	0.008	0.004 [c]	0.006	0.~~06~~02 to 0.44	0.00 to 0.07	0.01 to 0.25	0.~~03~~06	0.06 ~~0.04~~	0.28
West of Orkney Windfarm	661	367	437	11.17	9.08	8.75	0.008	No connectivity	0.006 ~~0.05~~ ~~-~~	0.02 to 0.36		0.01 to 0.18	0.09	-	0.05
White Cross Offshore Windfarm	379	23	94	4.93	1.97	0.98	0.008	0.013 [e]	0.006	0.~~03~~01 to 0.21	0.00 to 0.02	0.00 to 0.04	0.04	0.03	0.01
Burbo Bank	12	7	11	0.29	0.45	0.45	0.008	0.005 [d]	0.006	0.00 to 0.01	0.00 to 0.00	0.00 to 0.00	0.00	0.00	0.00

~~Plan or project~~ [illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]					
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.008	0.005 ᵈ	0.006	0.00 to 0.02	0.00 to 0.01	0.00 to 0.01	0.00	0.00	0.00			
Robin Rigg	16	11	15	0.39	0.71	0.68	0.008	0.004 ᶜ	0.006	0.00 to 0.01	0.00 to 0.00	0.00 to 0.01	0.00	0.00	0.00			
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.008	0.005 ᵈ	0.006	0.00 to 0.01	0.00 to 0.00	0.00 to 0.00	0.00	0.00	0.00			
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.008	0.004 ᶜ	0.006	0.00 to 0.03	0.00 to 0.01	0.00 to 0.02	0.00	0.01	0.01	0.03	0.01	0.01 to 0.03
Walney 2	Included above					0.45	0.008	0.004 ᶜ	0.006	Included above			0.00	0.01	0.00	0.00 to 0.00	0.01 to 0.01	0.00 to 0.00
West of Duddon Sands Offshore Wind Farm	37	242	34	0.45	0.77	0.71	0.008	0.004 ᶜ	0.006	0.00 to 0.02	0.00 to 0.10	0.00 to 0.01	0.01	0.01	0.01	0.01 to 0.03	0.01 to 0.08	0.01 to 0.03
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
~~[illegible]~~				~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~		~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~					
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			

1.5.3.21 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-30.

[illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults . All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season.

b – the apportioning value during the breeding season was taken from project specific documentation

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.004.
d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.05.
e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.013.

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.008	0.005 b	0.006	0.01	0.00	0.00	0.07	0.03	0.03	0.08	0.03	0.03	0.14
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.00	12.26	0.00	0.008	0.005 d	0.006	0.00	0.02	0.00	0.00	0.06	0.00	0.00	0.08	0.00	0.08
Erebus Floating Wind Demo	1	1076	278	6.66	0.27	13.11	0.008	0.013 b	0.006	0.00	0.13	0.01	0.05	-	0.08	0.05	-	0.09	0.15
TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.008	0.013 e	0.006	0.00	0.00	0.01	0.00	-	0.00	0.00	-	0.01	0.01
Mona Offshore Wind Project	312	386	307	4.65	8.26	4.47	0.008	0.006 b	0.006	0.02	0.02	0.02	0.04	0.05	0.03	0.06	0.07	0.04	0.17
Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.84	8.00	6.19	0.008	0.004 b	0.006	0.04	0.07	0.12	0.02	0.03	0.04	0.07	0.11	0.15	0.33
Morgan Offshore Wind Project Generation Assets	350	245	886	7.01	2.66	11.51	0.008	0.004 b	0.006	0.02	0.01	0.05	0.06	0.01	0.07	0.08	0.02	0.12	0.22
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0021	0.004 c	0.0012	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01
Rampion Offshore Wind Farm	451	563	122	22.22	37.54	8.43	0.008	No connectivity	0.006	0.03	-	0.01	0.18	-	0.05	0.21	-	0.06	0.27
Rampion 2 Offshore Wind Farm	155	3	53	9.04	0.53	5.32	0.008	No connectivity	0.006	0.01	-	0.00	0.07	-	0.03	0.08	-	0.03	0.12
Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.08	10.00	45.96	0.008	0.004 c	0.006	0.06	0.01	0.03	0.06	0.04	0.28	0.12	0.05	0.31	0.47
West of Orkney Windfarm	661	367	437	11.17	9.08	8.75	0.008	No connectivity	0.006	0.05	-	0.02	0.09	-	0.05	0.14	-	0.08	0.21
White Cross Offshore Windfarm	379	23	94	4.93	1.97	0.98	0.008	0.013 e	0.006	0.03	0.00	0.00	0.04	0.03	0.01	0.07	0.03	0.01	0.11
[illegible]																			
Burbo Bank	12	7	11	0.29	0.45	0.45	0.008	0.005 d	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.008	0.005 d	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Robin Rigg	16	11	15	0.39	0.71	0.68	0.008	0.004 ^{c}	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.008	0.005 ^{d}	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.008	0.004 ^{c}	0.006	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02
Walney 2	Included above					0.45	0.008	0.004 ^{c}	0.006	Included above			0.00	0.01	0.00	0.00	0.01	0.00	0.01
West of Duddon Sands Offshore Wind Farm	37	242	34	0.45	0.77	0.71	0.008	0.004 ^{c}	0.006	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.05
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.19~~1.5.3.22 As the predicted impact on black-legged kittiwake from Wicklow Head SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.2) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

~~1.5.3.20~~1.5.3.23 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from Cape Wrath SPA, an in-combination assessment is presented within Table 1-31 (30% displacement and 1% mortality to 70% displacement and 10% mortality) and Table 1-32 (30% displacement and 3% mortality).

[illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season.

~~Plan or project~~ [illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.044	No connectivity	0.0249	0.02 to 0.49	-	0.00 to 0.08	0.36	-	0.11	0.38 to 0.85	-	0.11 to 0.19	0.49 to 1.03
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.00	12.26	0.00	0.044	No connectivity	0.0249	0.00 to 0.08	-	0.00 to 0.04	0.00	-	0.00	0.00 to 0.~~00~~08	-	0.00 to 0.~~00~~04	0.00 to 0.12
Erebus Floating Wind Demo	1	1076	278	6.66	0.27	13.11	0.044	No connectivity	0.0249	0.00 to 0.00	-	0.02 to 0.47	0.29	-	0.33	0.29 to 0.30	-	0.35 to 0.80	0.64 to 1.09
TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.044	No connectivity	0.0249	0.00 to 0.09	-	0.01 to 0.18	0.00	-	0.00	0.00 to 0.09	-	0.01 to 0.18	0.01 to 0.27
Mona Offshore Wind Project	312	386	307	4.65	8.26	4.47	0.044	No connectivity	0.0249	0.04 to 0.94	-	0.02 to 0.52	0.~~35~~20	-	0.11	0.~~39~~24 to 1.~~29~~15	-	0.13 to 0.63	0.38 to 1.78
Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.84	8.00	6.19	0.044	No connectivity	0.0249	0.08 to 1.90	-	0.16 to 3.75	0.12	-	0.15	0.21 to 2.03	-	0.31 to 3.91	0.52 to 5.93
Morgan Offshore Wind Project Generation Assets	350	245	886	7.01	2.66	11.51	0.044	No connectivity	0.0249	0.05 to 1.06	-	0.06 to 1.50	0.31	-	0.29	0.35 to 1.37	-	0.35 to 1.79	0.70 to 3.15
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.044	No connectivity	0.0249	0.00 to 0.~~00~~04	-	0.00 to 0.~~00~~02	0.00	-	0.00	0.00 to 0.~~00~~04	-	0.00 to 0.~~00~~02	0.00 to 0.05
Rampion Offshore Wind Farm	451	563	122	22.22	37.54	8.43	0.044	No connectivity	0.0249	0.06 to 1.36	-	0.01 to 0.21	0.98	-	0.21	1.04 to 2.34	-	0.22 to 0.42	1.25 to 2.75
Rampion 2 Offshore Wind Farm	155	3	53	9.04	0.53	5.32	0.044	No connectivity	0.0249	0.02 to 0.47	-	0.00 to 0.09	0.40	-	0.13	0.42 to 0.87	-	0.14 to 0.22	0.55 to 1.09
Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.08	10.00	45.96	0.044	No connectivity	0.0249	0.10 to 2.40	-	0.04 to 1.03	0.36	-	1.14	0.46 to 2.76	-	1.19 to 2.18	1.65 to 4.94
West of Orkney Windfarm	661	367	437	11.17	9.08	8.75	0.044	No connectivity	0.0249	0.09 to 1.99	-	0.03 to 0.74	0.49	-	0.22	0.58 to 2.49	-	0.25 to 0.96	0.83 to 3.44

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~~Plan or project~~ [illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
White Cross Offshore Windfarm	379	23	94	4.93	1.97	0.98	0.044	No connectivity	0.0249	0.05 to 1.14	-	0.01 to 0.16	0.22	-	0.02	0.27 to 1.36	-	0.03 to 0.18	0.30 to 1.54
[illegible]																			
Burbo Bank	12	7	11	0.29	0.45	0.45	0.044	No connectivity	0.0249	0.00 to 0.04	-	0.00 to 0.02	0.01	-	0.01	0.01 to 0.05	-	0.01 to 0.03	0.03 to 0.08
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.044	No connectivity	0.0249	0.01 to 0.12	-	0.00 to 0.06	0.02	-	0.02	0.02 to 0.14	-	0.02 to 0.08	0.04 to 0.22
Robin Rigg	16	11	15	0.39	0.71	0.68	0.044	No connectivity	0.0249	0.00 to 0.05	-	0.00 to 0.03	0.02	-	0.02	0.02 to 0.07	-	0.02 to 0.04	0.04 to 0.11
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.044	No connectivity	0.0249	0.00 to 0.04	-	0.00 to 0.02	0.02	-	0.02	0.02 to 0.05	-	0.02 to 0.03	0.04 to 0.09
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.044	No connectivity	0.0249	0.01 to 0.15	-	0.00 to 0.08	0.03	-	0.02	0.03 to 0.18	-	0.03 to 0.10	0.06 to 0.29
Walney 2	Included above					0.45	0.044	No connectivity	0.0249	0.00 to 0.00	-	0.00 to 0.00	0.01	-	0.01	0.01 to 0.01	-	0.01 to 0.01	0.02 to 0.02
West of Duddon Sands Offshore Wind Farm	37	242	34	0.45	0.77	0.71	0.044	No connectivity	0.0249	0.00 to 0.11	-	0.00 to 0.06	0.06	-	0.06	0.07 to 0.17	-	0.06 to 0.11	0.12 to 0.28
[illegible]										0.~~1~~53 to ~~11~~12.48	-	0.39 to 9.04	3.90	-	2.87	4.43 to ~~1~~16.37	-	3.~~0~~25 to 11.91	7.68 to 28.29
[illegible]										0.02% to 0.41%	-	0.01% to 0.30%	0.13%	-	0.09%	0.15% to 0.54%	-	0.~~10~~11% to 0.39%	0.25% to 0.94%
~~[illegible]~~										~~[illegible]~~									

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~~1.5.3.21~~1.5.3.24 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-32.

[illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults . All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season.

~~Plan or project~~ [illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]								
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.044	No connectivity	0.0249	0.06	-	0.01	0.36	-	0.11	0.42	-	0.12	0.~~36~~54	-	~~0.11~~
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.00	12.26	0.00	0.044	No connectivity	0.0249	0.~~00~~01	-	0.~~00~~01	0.00	-	0.00	0.~~00~~01	-	0.~~00~~01	0.02		
Erebus Floating Wind Demo	1	1076	278	6.66	0.27	13.11	0.044	No connectivity	0.0249	0.00	-	0.06	0.29	-	0.33	0.29	-	0.39	0.~~29~~68	-	~~0.33~~
TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.044	No connectivity	0.0249	0.01	-	0.02	0.00	-	0.00	0.01	-	0.02	0.~~00~~03	-	~~0.00~~
Mona Offshore Wind Project	312	386	307	4.65	8.26	4.47	0.044	No connectivity	0.0249	0.~~35~~12	-	0.07	0.20	-	0.11	0.~~47~~33	-	0.18	0.~~35~~50	-	~~0.11~~
Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.84	8.00	6.19	0.044	No connectivity	0.0249	0.24	-	0.48	0.12	-	0.15	0.37	-	0.64	~~0.12~~1.01	-	~~0.15~~
Morgan Offshore Wind Project Generation Assets	350	245	886	7.01	2.66	11.51	0.044	No connectivity	0.0249	0.14	-	0.19	0.31	-	0.29	0.44	-	0.48	0.~~31~~92	-	~~0.29~~
Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.044	No connectivity	0.0249	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.01		
Rampion Offshore Wind Farm	451	563	122	22.22	37.54	8.43	0.044	No connectivity	0.0249	0.18	-	0.03	0.98	-	0.21	1.15	-	0.24	~~0.98~~1.39	-	~~0.21~~
Rampion 2 Offshore Wind Farm	155	3	53	9.04	0.53	5.32	0.044	No connectivity	0.0249	0.06	-	0.01	0.40	-	0.13	0.46	-	0.14	0.~~40~~60	-	~~0.13~~
Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.08	10.00	45.96	0.044	No connectivity	0.0249	0.31	-	0.13	0.36	-	1.14	0.66	-	1.28	1.~~14~~94	~~0.36~~	-
West of Orkney Windfarm	661	367	437	11.17	9.08	8.75	0.044	No connectivity	0.0249	0.26	-	0.10	0.49	-	0.22	0.75	-	0.31	~~0.49~~1.06	-	~~0.22~~

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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
White Cross Offshore Windfarm	379	23	94	4.93	1.97	0.98	0.044	No connectivity	0.0249	0.15	-	0.02	0.22	-	0.02	0.36	-	0.05	0.~~22~~41	-	~~0.02~~
[illegible]																					
Burbo Bank	12	7	11	0.29	0.45	0.45	0.044	No connectivity	0.0249	0.00	-	0.00	0.01	-	0.01	0.02	-	0.01	0.03		
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.044	No connectivity	0.0249	0.02	-	0.01	0.02	-	0.02	0.03	-	0.03	0.06		
Robin Rigg	16	11	15	0.39	0.71	0.68	0.044	No connectivity	0.0249	0.01	-	0.00	0.02	-	0.02	0.02	-	0.02	0.04		
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.044	No connectivity	0.0249	0.00	-	0.00	0.02	-	0.02	0.02	-	0.02	0.04		
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.044	No connectivity	0.0249	0.02	-	0.01	0.03	-	0.02	0.05	-	0.04	0.08		
Walney 2	Included above					0.45	0.044	No connectivity	0.0249				0.01	-	0.01	0.01	-	0.01	0.02		
West of Duddon Sands Offshore Wind Farm	37	242	34	0.45	0.77	0.71	0.044	No connectivity	0.0249	0.01	-	0.01	0.06	-	0.06	0.07	-	0.06	0.14		
[illegible]										1.60		1.16	3.90	~~0.00~~	2.87	5.~~0~~50	~~0.00~~	4.03	9.53	~~0.00~~	
[illegible]										0.05%		0.04%	0.13%	~~0.00~~	0.09%	0.18%	~~0.00~~	0.13%	0.~~1~~32%	~~0.00~~	~~0.0~~
~~[illegible]~~										~~[illegible]~~											

~~1.5.3.22~~1.5.3.25 As the predicted impact on black-legged kittiwake from Cape Wrath SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is not considered to hinder the conservation objectives of the site, and therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

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~~1.5.3.23~~1.5.3.26 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from North Colonsay and Western Cliffs SPA, an in-combination assessment is presented within Table 1-33 (70% displacement and 10% mortality) and Table 1-34 (30% displacement and 3% mortality).

Table 1-[illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season.

~~Plan or project~~ [illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]				[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.0237	No connectivity	0.0134	0.01 to 0.26	-	0.00 to 0.04	0.19	-	0.06	0.20 to 0.46	-	0.06 to 0.10	0.27 to 0.56
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.00	12.26	0.00	0.0237	No connectivity	0.0134	0.00 to 0.04	-	0.00 to 0.02	0.00	-	0.00	0.00 to 0.~~00~~04	-	0.00 to 0.~~00~~02	0.00 to 0.07
Erebus Floating Wind Demo	1	1076	278	6.66	0.27	13.11	0.0237	No connectivity	0.0134	0.00 to 0.00	-	0.01 to 0.25	0.16	-	0.18	0.16 to 0.16	-	0.19 to 0.43	0.34 to 0.59
TwinHub (Wave Hub Floating Wind Farm)	30	2	103	0.00	5.17	0.00	0.0237	No connectivity	0.0134	0.00 to 0.05	-	0.00 to 0.09	0.00	-	0.00	0.00 to 0.05	-	0.00 to 0.09	0.01 to 0.14
Mona Offshore Wind Project	312	386	307	4.65	8.26	4.47	0.0237	No connectivity	0.0134	0.02 to 0.51	-	0.01 to 0.28	0.~~19~~11	-	0.06	0.~~21~~13 to 0.~~70~~62	-	0.07 to 0.34	0.20 to 0.96
Morecambe Offshore Windfarm Generation Assets	631	2074	2215	2.84	8.00	6.19	0.0237	No connectivity	0.0134	0.04 to 1.02	-	0.09 to 2.02	0.07	-	0.08	0.11 to 1.09	-	0.17 to 2.10	0.28 to 3.19
Morgan Offshore Wind Project Generation Assets	350	245	886	7.01	2.66	11.51	0.0237	No connectivity	0.0134	0.02 to 0.57	-	0.03 to 0.81	0.17	-	0.15	0.19 to 0.74	-	0.19 to 0.96	0.38 to 1.70
~~Rampion Offshore~~Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0237	No connectivity	0.0134	0.03 to 0.73	-	0.00 to 0.11	0.53	-	0.11	0.56 to 1.26	-	0.12 to 0.22	0.68 to 1.48
Rampion ~~2~~ Offshore Wind Farm	451	563	122	22.22	37.54	8.43	0.0237	No connectivity	0.0134	0.01 to 0.25	-	0.00 to 0.05	0.21	-	0.07	0.23 to 0.47	-	0.07 to 0.12	0.30 to 0.59
~~Walney (3 and 4) Extension~~Rampion 2 Offshore Wind Farm	155	3	53	9.04	0.53	5.32	0.0237	No connectivity	0.0134	0.06 to 1.29	-	0.02 to 0.56	0.19	-	0.62	0.25 to 1.49	-	0.64 to 1.17	0.89 to 2.66
~~West of Orkney Windfarm~~Walney (3 and 4) Extension Offshore Wind Farm	797	170	610	8.08	10.00	45.96	0.0237	No connectivity	0.0134	0.05 to 1.07	-	0.02 to 0.40	0.~~19~~26	-	0.~~62~~12	0.31 to 1.34	-	0.13 to 0.52	0.44 to 1.85
~~White Cross Offshore~~West of Orkney Windfarm	661	367	437	11.17	9.08	8.75	0.0237	No connectivity	0.0134	0.03 to 0.62	-	0.00 to 0.09	0.12	-	0.01	0.14 to 0.73	-	0.02 to 0.10	0.16 to 0.83
White Cross Offshore Windfarm	379	23	94	4.93	1.97	0.98	0.0237	No connectivity	0.0134	0.01 to 0.26	-	0.00 to 0.04	0.19	-	0.06	0.20 to 0.46	-	0.06 to 0.10	0.27 to 0.56

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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Burbo Bank	12	7	11	0.29	0.45	0.45	0.0237	No connectivity	0.0134	0.00 to 0.02	-	0.00 to 0.01	0.01	-	0.01	0.01 to 0.03	-	0.01 to 0.02	0.01 to 0.04
Gwynt y Môr Offshore Wind Farm	38	27	35	0.45	0.77	0.71	0.0237	No connectivity	0.0134	0.00 to 0.06	-	0.00 to 0.03	0.01	-	0.01	0.01 to 0.07	-	0.01 to 0.04	0.02 to 0.12
Robin Rigg	16	11	15	0.39	0.71	0.68	0.0237	No connectivity	0.0134	0.00 to 0.03	-	0.00 to 0.01	0.01	-	0.01	0.01 to 0.04	-	0.01 to 0.02	0.02 to 0.06
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0237	No connectivity	0.0134	0.00 to 0.02	-	0.00 to 0.01	0.01	-	0.01	0.01 to 0.03	-	0.01 to 0.02	0.02 to 0.05
Walney 1 - abundances are 1+2 combined	50	34	46	0.62	0.96	0.99	0.0237	No connectivity	0.0134	0.00 to 0.08	-	0.00 to 0.04	0.01	-	0.01	0.02 to 0.10	-	0.02 to 0.06	0.03 to 0.15
Walney 2	Included above			0.29	0.45	0.45	0.044	No connectivity	0.0237	0.00 to 0.00	-	0.00 to 0.00	0.01	-	0.01	0.01 to 0.01	-	0.01 to 0.01	0.01 to 0.01
West of Duddon Sands Offshore Wind Farm	38	27	35	0.45	0.77	0.71	0.0237	No connectivity	0.0134	0.00 to 0.06	-	0.00 to 0.03	0.03	-	0.03	0.04 to 0.09	-	0.03 to 0.06	0.07 to 0.15
[illegible]										0.29 to 6.70	-	0.~~0~~21 to 4.86	2.~~0~~10	-	1.54	2.39 to 8.80	-	1.~~1~~75 to 6.~~1~~40	4.14 to 15.20
~~[illegible]~~					~~0.01~~ ~~0~~		~~0.01~~ ~~0~~	~~0.1~~		~~0.0~~	~~0.0~~ ~~0~~		~~0.0~~ ~~0~~						
~~[illegible]~~										0.01% to 0.41%	-	0.01% to 0.30%	~~0~~ ~~1~~ ~~rd~~ ~~0.1~~ ~~0~~ ~~0~~ 0.13%	-	0.10%	0.08% to 0.54%	-	0.06% to 0.39%	0.14% to 0.94%

~~1.5.3.24~~1.5.3.27 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-34.

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season.

~~Plan or project~~ [illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	159	46	44	8.14	6.20	4.41	0.0237	No connectivity	0.0134	0.03	-	0.01	0.19	-	0.06	0.23	-	0.06	0.42
Burbo Bank Extension Offshore Wind Farm	27	376	24	0.00	12.26	0.00	0.0237	No connectivity	0.0134	0.~~00~~01	-	0.00	0.00	-	0.00	0.~~00~~01	-	0.00	0.01
Erebus Floating Wind Demo	1	1076	270	6.66	0.27	13.11	0.0237	No connectivity	0.0134	0.00	-	0.03	0.16	-	0.18	0.16	-	0.21	0.32
TwinHub (Wave Hub Floating Wind Farm)	30	2	101	0.00	5.17	0.00	0.0237	No connectivity	0.0134	0.01	-	0.01	0.00	-	0.00	0.01	-	0.01	0.01
Mona Offshore Wind Project	305	386	298	4.65	8.26	4.47	0.0237	No connectivity	0.0134	0.07	-	0.04	0.~~19~~11	-	0.06	0.~~25~~18	-	0.10	0.29
Morecambe Offshore Windfarm Generation Assets	618	2074	2152	2.84	8.00	6.19	0.0237	No connectivity	0.0134	0.13	-	0.26	0.07	-	0.08	0.20	-	0.34	0.27
Morgan Offshore Wind Project Generation Assets	343	245	861	7.01	2.66	11.51	0.0237	No connectivity	0.0134	0.07	-	0.10	0.17	-	0.15	0.24	-	0.26	0.41
~~Rampion Offshore~~Ormonde Wind Farm	12	32	11	0.00	1.74	0.00	0.0237	No connectivity	0.0134	0.09	-	0.01	0.53	-	0.11	0.62	-	0.13	1.15
Rampion ~~2~~ Offshore Wind Farm	442	563	118	22.22	37.54	8.43	0.0237	No connectivity	0.0134	0.03	-	0.01	0.21	-	0.07	0.25	-	0.08	0.46
Rampion 2 Offshore Wind Farm	152	3	52	9.04	0.53	5.32	0.0237	No connectivity	0.0134	0.17	-	0.07	0.19	-	0.62	0.36	-	0.69	0.55
Walney (3 and 4) Extension Offshore Wind Farm	780	170	593	8.08	10.00	45.96	0.0237	No connectivity	0.0134	0.~~17~~14	-	0.~~07~~05	0.~~19~~26	-	0.~~62~~12	0.~~36~~40	-	0.~~69~~17	0.67
West of Orkney Windfarm	647	367	425	11.17	9.08	8.75	0.0237	No connectivity	0.0134	0.~~14~~08	-	0.~~05~~01 ~~0.26~~ -	0.12	~~0.40~~-	-0.01	0.~~17~~20	-	0.02	0.31
White Cross Offshore Windfarm	371	23	92	4.93	1.97	0.98	0.0237	No connectivity	0.0134	0.03	-	0.01	0.19	-	0.06	0.23	-	0.06	0.42
[illegible]																			
~~White Cross Offshore Windfarm~~Burbo Bank	12	7	11	0.29	0.45	0.45	0.0237	No connectivity	0.0134	0.~~08~~00	-	0.00	0.01	~~0.12~~-	-0.01	0.01	~~0.20~~-	-0.01	0.02
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.0237	No connectivity	0.0134	0.01	-	0.00	0.01	-	0.01	0.02	-	0.01	0.03

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Robin Rigg	16	11	15	0.39	0.71	0.68	0.0237	No connectivity	0.0134	0.00	-	0.00	0.01	-	0.01	0.01	-	0.01	0.02
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.0237	No connectivity	0.0134	0.00	-	0.00	0.01	-	0.01	0.01	-	0.01	0.02
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.0237	No connectivity	0.0134	0.01	-	0.01	0.01	-	0.01	0.03	-	0.02	0.04
Walney 2	Included above					0.45	0.044	No connectivity	0.0237	0.01	-	0.01	0.01	-	0.01	0.01	-	0.01	0.01
West of Duddon Sands Offshore Wind Farm	37	242	34	0.45	0.77	0.71	0.0237	No connectivity	0.0134	0.01	-	0.00	0.03	-	0.03	0.04	-	0.03	0.07
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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~~1.5.3.25~~1.5.3.28 As the predicted impact on black-legged kittiwake from North Colonsay and Western Cliffs SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is not considered to hinder the conservation objectives of the site therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

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~~1.5.3.26~~1.5.3.29 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline black-legged kittiwake from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA, an in-combination assessment is presented within Table 1-35 (30% displacement and 1% mortality to 70% displacement and 10% mortality) and Table 1-36 (30% displacement and 3% mortality).

[illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults. All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.004.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.004.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.817.

~~Plan or project~~ [illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]				[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.~~0045~~008	0.004 [b]	0.~~0025~~006	0.00 to 0.05	0.00 to 0.01	0.00 to 0.01	0.04	0.02	0.01	0.04 to 0.09	0.03 to 0.04	0.01 to 0.02	0.08 to 0.14
Burbo Bank Extension Offshore Wind Farm	~~0.0045~~27	376	25	0.~~003~~00	~~0.0025~~12.26	0.00	0.008	0.004 [d]	0.006	0.00 to 0.~~00~~01	0.00 to 0.~~08~~11	0.00 to 0.00	0.00	0.~~04~~05	0.00	0.00 to 0.~~00~~01	0.~~04~~05 to 0.~~12~~15	0.00 to 0.00	0.05 to 0.17
Erebus Floating Wind Demo	~~0.0045~~1	1076	278	6.66	0.27	13.11	0.008	0.817 [b]	0.~~0025~~006	0.00 to 0.00	2.64 to 61.52	0.00 to 0.05	0.03	0.22	0.03	0.03 to 0.03	2.85 to 61.74	0.03 to 0.08	2.92 to 61.85
TwinHub (Wave Hub Floating Wind Farm)	~~0.0045~~30	2	103	0.00	5.17	0.00	0.008	0.817 [e]	0.~~0025~~006	0.00 to 0.01	0.01 to 0.12	0.00 to 0.02	0.00	4.~~30~~22	0.00	0.00 to 0.01	4.~~31~~23 to 4.~~42~~35	0.00 to 0.02	4.23 to 4.37
Mona Offshore Wind Project	~~0.0045~~312	386	307	4.65	8.26	4.47	0.008	0.002 [b]	0.~~0025~~006	0.00 to 0.10	0.00 to 0.05	0.00 to 0.05	0.~~04~~02	0.~~01~~02	0.01	0.~~04~~03 to 0.~~13~~12	0.02 to 0.07	0.01 to 0.06	0.~~01~~06 to 0.~~06~~25
Morecambe Offshore Windfarm Generation Assets	~~0.0045~~631	2074	2215	2.84	8.00	6.19	0.008	0.003 [b]	0.~~0025~~006	0.01 to 0.19	0.02 to 0.44	0.02 to 0.38	0.01	0.02	0.02	0.02 to 0.21	0.04 to 0.46	0.03 to 0.39	0.10 to 1.06
Morgan Offshore Wind Project Generation Assets	~~0.0045~~350	245	886	7.01	2.66	11.51	0.008	0.002 [b]	0.~~0025~~006	0.00 to 0.11	0.00 to 0.03	0.01 to 0.15	0.03	0.01	0.03	0.04 to 0.14	0.01 to 0.04	0.04 to 0.18	0.08 to 0.36
Ormonde Wind Farm	~~0.0045~~12	~~0.003~~32	~~0.0025~~11	~~0.00 to~~ 0.00	~~0.00 to 0.00~~1.74	~~0.00 to~~ 0.00	0.~~00~~0021	0.002 [c]	0.0012	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00	0.00	0.00	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00 ~~0.00 to 0.00~~	0.~~01~~00 to 0.01 ~~0.00 to 0.00~~

~~Plan or project~~[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rampion Offshore Wind Farm	~~0.0045~~451	563	122	22.22	37.54	8.43	0.008	No connectivity	0.~~0025~~006	0.01 to 0.14	-	0.00 to 0.02	0.10	-	0.02	0.11 to 0.24		0.02 to 0.04	0.13 to 0.28
Rampion 2 Offshore Wind Farm	~~0.0045~~155	3	53	9.04	0.53	5.32	0.008	No connectivity	0.~~0025~~006	0.00 to 0.05	-	0.00 to 0.01	0.04	-	0.01	0.04 to 0.09		0.01 to 0.02	0.06 to 0.11
Walney (3 and 4) Extension Offshore Wind Farm	~~0.0045~~797	~~0.003~~170	~~0.0025~~610	8.08	10.00	45.96	0.008	0.002 [c]	0.006	0.01 to 0.25	0.00 to 0.~~04~~02	0.00 to 0.10	0.04	0.~~03~~02	0.11	0.05 to 0.28	0.~~03~~02 to 0.~~07~~04	0.12 to 0.22	0.19 to 0.54
West of Orkney Windfarm	~~0.0045~~661	367	437	11.17	9.08	8.75	0.008	No connectivity	0.~~0025~~006	0.01 to 0.20	-	0.00 to 0.07	0.05	-	0.02	0.06 to 0.25		0.03 to 0.10	0.08 to 0.35
White Cross Offshore Windfarm	~~0.0045~~379	23	94	4.93	1.97	0.98	0.008	0.817 [e]	0.~~0025~~006	0.01 to 0.12	0.06 to 1.34	0.00 to 0.02	0.02	1.61	0.00	0.03 to 0.14	1.67 to 2.95	0.00 to 0.02	1.70 to 3.10
[illegible]																			
Burbo Bank	12	7	11	0.29	0.45	0.45	0.008	0.004 [d]	0.006	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00	0.00	0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.01
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.008	0.004 [d]	0.006	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00	0.00	0.00	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.01 to 0.03
Robin Rigg	16	11	15	0.39	0.71	0.68	0.008	0.002 [c]	0.006	0.00 to 0.01	0.00 to 0.00	0.00 to 0.00	0.00	0.00	0.00	0.00 to 0.01	0.00 to 0.00	0.00 to 0.00	0.01 to 0.01
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.008	0.004 [d]	0.006	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00	0.00	0.00	0.00 to 0.01	0.00 to 0.01	0.00 to 0.00	0.01 to 0.01
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.008	0.002 [c]	0.006	0.00 to 0.02	0.00 to 0.00	0.00 to 0.01	0.00	0.00	0.00	0.00 to 0.02	0.00 to 0.01	0.00 to 0.01	0.01 to 0.04
Walney 2	Included above					0.45	0.008	0.002 [c]	0.006	Included above			0.00	0.00	0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.01 to 0.01
West of Duddon Sands Offshore Wind Farm	37	242	34	0.45	0.77	0.71	0.008	0.002 [c]	0.006	0.00 to 0.01	0.00 to 0.03	0.00 to 0.01	0.01	0.00	0.01	0.01 to 0.02	0.01 to 0.04	0.01 to 0.01	0.02 to 0.07
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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~~1.5.3.27~~1.5.3.30 As previously discussed (section 1.1.2) the Applicant is not proposing to undertaken PVA on the worst-case scenario as advised by JNCC, due to lack of empirical evidence for a displacement rate of 70% and a mortality rate of 10% therefore the Applicant has presented the NatureScot guidance of 30% displacement and 3% mortality within Table 1-36.

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults . All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For black-legged kittiwake, the proportions are 53.2% of birds are adults in the breeding period, 54.33% of birds are adults in the pre-breeding period and 54.74% of birds are adults in the post-breeding season

b – the apportioning value during the breeding season was taken from project specific documentation.

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.002.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.004.

e - the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.817.

~~Plan or project~~ [illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
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Awel y Môr Offshore Wind Farm	162	46	45	8.14	6.20	4.41	0.~~0045~~008	0.004 [b]	0.~~0025~~006	0.01	0.00	0.00	0.04	0.02	0.01	0.04	0.03	0.01	0.08
Burbo Bank Extension Offshore Wind Farm	27	376	25	0.~~0045~~00	12.26	0.~~003~~00	0.~~0025~~008	0.004 [d]	0.006	0.00	0.01	0.00	0.00	0.~~04~~05	0.00	0.00	0.~~05~~06	0.00	0.06
Erebus Floating Wind Demo	~~0.0045~~1	1076	278	6.66	0.27	13.11	0.008	0.817 [b]	0.~~0025~~006	0.00	7.91	0.01	0.03	0.22	0.03	0.03	8.13	0.04	8.20
TwinHub (Wave Hub Floating Wind Farm)	~~0.0045~~30	2	103	0.00	5.17	0.00	0.008	0.817 [e]	0.~~0025~~006	0.00	0.02	0.00	0.00	4.~~30~~22	0.00	0.00	4.~~32~~24	0.00	4.24
Mona Offshore Wind Project	~~0.0045~~312	386	307	4.65	8.26	4.47	0.008	0.002 [b]	0.~~0025~~006	0.01	0.01	0.01	0.~~04~~02	0.~~01~~02	0.01	0.~~05~~03	0.02	0.02	0.07
Morecambe Offshore Windfarm Generation Assets	~~0.0045~~631	2074	2215	2.84	8.00	6.19	0.008	0.003 [b]	0.~~0025~~006	0.03	0.06	0.05	0.01	0.02	0.02	0.04	0.08	0.06	0.18
Morgan Offshore Wind Project Generation Assets	~~0.0045~~350	245	886	7.01	2.66	11.51	0.008	0.002 [b]	0.~~0025~~006	0.01	0.00	0.02	0.03	0.01	0.03	0.05	0.01	0.05	0.10
Ormonde Wind Farm	~~0.0045~~12	~~0.003~~32	~~0.0025~~11	0.00	~~0.00~~1.74	0.00	0.~~00~~0021	0.~~01~~002 [c]	0.~~00~~0012	0.00	0.~~01~~00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rampion Offshore Wind Farm	~~0.0045~~451	563	122	22.22	37.54	8.43	0.008	No connectivity	0.~~0025~~006	0.02	-	0.00	0.10	-	0.02	0.12	-	0.02	0.14
Rampion 2 Offshore Wind Farm	~~0.0045~~155	3	53	9.04	0.53	5.32	0.008	No connectivity	0.~~0025~~006	0.01	-	0.00	0.04	-	0.01	0.05	-	0.01	0.06
Walney (3 and 4) Extension Offshore Wind Farm	~~0.0045~~797	~~0.003~~170	~~0.0025~~610	8.08	10.00	45.96	0.008	0.002 [c]	0.006	0.03	0.00	0.01	0.04	0.~~03~~02	0.11	0.07	0.~~03~~02	0.13	0.22
West of Orkney Windfarm	~~0.0045~~661	367	437	11.17	9.08	8.75	0.008	No connectivity	0.~~0025~~006	0.03	-	0.01	0.05	-	0.02	0.08	-	0.03	0.11

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White Cross Offshore Windfarm	~~0.0045~~379	23	94	4.93	1.97	0.98	0.008	0.817 [e]	0.~~0025~~006	0.02	0.17	0.00	0.02	1.61	0.00	0.04	1.78	0.00	1.82
[illegible]																			
Burbo Bank	12	7	11	0.29	0.45	0.45	0.008	0.004 [d]	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Gwynt y Môr Offshore Wind Farm	39	27	36	0.45	0.77	0.71	0.008	0.004 [d]	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Robin Rigg	16	11	15	0.39	0.71	0.68	0.008	0.002 [c]	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Rhyl Flats Offshore Wind Farm	12	9	11	0.40	0.71	0.63	0.008	0.004 [d]	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Walney 1 - abundances are 1+2 combined	51	34	47	0.62	0.96	0.99	0.008	0.002 [c]	0.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Walney 2	Included above					0.45	0.008	0.002 [c]	0.006	Included above			0.00	0.00	0.00	0.00	0.00	0.00	0.01
West of Duddon Sands Offshore Wind Farm	37	242	34	0.45	0.77	0.71	0.008	0.002 [c]	0.006	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.02
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~~[illegible]~~										~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.28~~1.5.3.31 As the predicted impact on black-legged kittiwake from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA is >1% increase in baseline mortality, the impact is further investigated by a PVA (see section 1.6.2) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

[illegible]

~~1.5.3.29~~1.5.3.32 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from Sule Skerry and Sule Stack SPA, an in-combination assessment is presented within Table 1-37 (30-70% displacement and 1-10% mortality and 70% displacement and 2% mortality).

[illegible]

[a] – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

b – the apportioning value during the breeding season was taken from project specific documentation

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0221	0.11 to 2.60	~~N/A~~-	0.11 to 2.60	0.52	~~N/A~~-	0.52
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0221	0.06 to 1.39	~~N/A~~-	0.06 to 1.39	0.28	~~N/A~~-	0.28
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0221	1.08 to 25.~~19~~25	~~N/A~~-	1.08 to 25.~~19~~25	5.~~04~~05	~~N/A~~-	5.~~04~~05
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0221	0.01 to 0.19	~~N/A~~-	0.01 to 0.19	0.04	~~N/A~~-	0.04
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0221	0.07 to 1.~~71~~72	~~N/A~~-	0.07 to 1.~~71~~72	0.34	~~N/A~~-	0.34
West of Orkney Windfarm	2,794	2,462	0.9145[b]	0.0221	7.83 to 182.~~64~~65	7.66 to 178.84	0.16 to 3.~~80~~81	0.76	35.77	0.76
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0221	0.04 to 0.94	~~N/A~~-	0.04 to 0.94	0.19	~~N/A~~-	0.19
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0221	0.29 to 6.~~80~~81	~~N/A~~-	0.29 to 6.80	1.36	~~N/A~~-	1.36
Morgan Offshore Wind Project Assets	No connectivity	2,362	No connectivity	0.0221	0.16 to 3.65	~~N/A~~-	0.16 to 3.65	0.73	~~N/A~~-	0.73
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0221	0.14 to 3.~~34~~35	~~N/A~~-	0.14 to 3.~~34~~35	0.67	~~N/A~~-	0.67
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0221	0.00 to 0.05	-	0.00 to 0.05	0.01	-	0.01
Gwynt Y Môr	No connectivity	118	No connectivity	0.0221	0.01 to 0.18	-	0.01 to 0.18	0.04	-	0.04
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0221	0.00 to 0.03	-	0.00 to 0.03	0.01	-	0.01
Robin Rigg	No connectivity	51	No connectivity	0.0221	0.00 to 0.08	-	0.00 to 0.08	0.02	-	0.02
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0221	0.00 to 0.06	-	0.00 to 0.06	0.01	-	0.01
Walney 1 & 2	No connectivity	131	No connectivity	0.0221	0.01 to 0.20	-	0.01 to 0.20	0.04	-	0.04
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0221	0.01 to 0.15	-	0.01 to 0.15	0.03	-	0.03
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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1.5.3.28 As the predicted impact on common guillemot from Sule Skerry and Sule Stack SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

~~1.5.3.30~~1.5.3.33 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot North Rona and Sula Sgeir SPA, an in-combination assessment is presented within Table 1-38 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible]

[a] – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

b – the apportioning value during the breeding season was taken from project specific documentation

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0145	0.07 to 1.~~70~~71	~~N/A~~-	0.07 to 1.~~70~~71	0.34	~~N/A~~-	0.34
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0145	0.04 to 0.91	~~N/A~~-	0.04 to 0.91	0.18	~~N/A~~-	0.18
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0145	0.71 to 16.~~53~~57	~~N/A~~-	0.71 to 16.~~53~~57	3.31	~~N/A~~-	3.31
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0145	0.01 to 0.13	~~N/A~~-	0.01 to 0.13	0.03	~~N/A~~-	0.03
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0145	0.05 to 1.~~12~~13	~~N/A~~-	0.05 to 1.~~12~~13	0.~~22~~23	~~N/A~~-	0.~~22~~23
West of Orkney Windfarm	~~0.0002~~2,794	2,462	0.0002[b]	0.0145	0.11 to 2.~~53~~54	0.00 to 0.04	0.11 to 2.~~49~~50	0.51	0.01	0.50
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0145	0.03 to 0.62	~~N/A~~-	0.03 to 0.62	0.12	~~N/A~~-	0.12
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0145	0.19 to 4.~~46~~47	~~N/A~~-	0.19 to 4.~~46~~47	0.89	~~N/A~~-	0.89
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0145	0.10 to 2.~~39~~40	~~N/A~~-	0.10 to 2.~~39~~40	0.48	~~N/A~~-	0.48
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0145	0.09 to 2.~~19~~20	~~N/A~~-	0.09 to 2.~~19~~20	0.44	~~N/A~~-	0.44
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0145	0.00 to 0.03	-	0.00 to 0.03	0.01	-	0.01
Gwynt Y Môr	No connectivity	118	No connectivity	0.0145	0.01 to 0.12	-	0.01 to 0.12	0.02	-	0.02
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0145	0.00 to 0.02	-	0.00 to 0.02	0.00	-	0.00
Robin Rigg	No connectivity	51	No connectivity	0.0145	0.00 to 0.05	-	0.00 to 0.05	0.01	-	0.01
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0145	0.00 to 0.04	-	0.00 to 0.04	0.01	-	0.01
Walney 1 & 2	No connectivity	131	No connectivity	0.0145	0.01 to 0.13	-	0.01 to 0.13	0.03	-	0.03
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0145	0.00 to 0.10	-	0.00 to 0.10	0.02	-	0.02
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.31~~1.5.3.34 As the predicted impact on common guillemot from North Rona and Sula Sgeir SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

Cape Wrath SPA

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~~1.5.3.32~~1.5.3.35 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from Cape Wrath SPA, an in-combination assessment is presented within Table 1-39 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible]

[a] – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

b – the apportioning value during the breeding season was taken from project specific documentation

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0792	0.40 to 9.~~30~~32	~~N/A~~-	0.40 to 9.~~30~~32	1.86	~~N/A~~-	1.86
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0792	0.21 to 4.~~97~~98	~~N/A~~-	0.21 to 4.~~97~~98	~~0.99~~1.00	~~N/A~~-	~~0.99~~1.00
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0792	3.~~87~~88 to 90.~~29~~49	~~N/A~~-	3.~~87~~88 to 90.~~29~~49	18.~~06~~10	~~N/A~~-	18.~~06~~10
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0792	0.03 to 0.69	~~N/A~~-	0.03 to 0.69	0.14	~~N/A~~-	0.14
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0792	0.26 to 6.~~14~~15	~~N/A~~-	0.26 to 6.~~14~~15	1.23	~~N/A~~-	1.23
West of Orkney Windfarm	2,794	2,462	0.~~0248~~0248[b]	0.0792	0.79 to 18.~~47~~50	0.21 to 4.85	0.~~58~~59 to 13.~~62~~65	~~2.72~~3.70	0.97	2.~~72~~73
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0792	0.14 to 3.~~37~~38	~~N/A~~-	0.14 to 3.~~37~~38	0.~~67~~68	~~N/A~~-	0.~~67~~68
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0792	1.~~04~~05 to 24.~~36~~42	~~N/A~~-	1.~~04~~05 to 24.~~36~~42	4.~~87~~88	~~N/A~~-	4.~~87~~88
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0792	0.56 to 13.~~07~~10	~~N/A~~-	0.56 to 13.~~07~~10	2.~~61~~62	~~N/A~~-	2.~~61~~62
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0792	0.51 to 11.~~97~~99	~~N/A~~-	0.51 to 11.~~97~~99	2.~~39~~40	~~N/A~~-	2.~~39~~40
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0792	0.01 to 0.19	-	0.01 to 0.19	0.04	-	0.04
Gwynt Y Môr	No connectivity	118	No connectivity	0.0792	0.03 to 0.65	-	0.03 to 0.65	0.13	-	0.13
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0792	0.01 to 0.12	-	0.01 to 0.12	0.02	-	0.02
Robin Rigg	No connectivity	51	No connectivity	0.0792	0.01 to 0.28	-	0.01 to 0.28	0.06	-	0.06
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0792	0.01 to 0.22	-	0.01 to 0.22	0.04	-	0.04
Walney 1 & 2	No connectivity	131	No connectivity	0.0792	0.03 to 0.72	-	0.03 to 0.72	0.14	-	0.14
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0792	0.02 to 0.53	-	0.02 to 0.53	0.11	-	0.11
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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~~1.5.3.33~~1.5.3.36 As the predicted impact on common guillemot from Cape Wrath SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to conclude ~~an if~~ whether AEoSI can be ruled out beyond reasonable scientific doubt.

□□□d□□□□□

~~1.5.3.34~~1.5.3.37 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from Handa SPA, an in-combination assessment is presented within Table 1-40 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

□

Field Code Changed

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

b – the apportioning value during the breeding season was taken from project specific documentation

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.11	0.55 to 12.~~92~~95	~~N/A~~-	0.55 to 12.~~92~~95	2.~~58~~59	~~N/A~~-	2.~~58~~59
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.11	0.30 to 6.~~91~~92	~~N/A~~-	0.30 to 6.~~91~~92	1.38	~~N/A~~-	1.38
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.11	5.37 to 125.~~40~~68	~~N/A~~-	5.37 to 125.~~40~~68	25.~~08~~14	~~N/A~~-	25.~~08~~14
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.11	0.04 to 0.96	~~N/A~~-	0.04 to 0.96	0.19	~~N/A~~-	0.19
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.11	0.37 to 8.~~53~~55	~~N/A~~-	0.37 to 8.~~53~~55	1.71	~~N/A~~-	1.71
West of Orkney Windfarm	2,794	2,462	0.~~0116~~0116[b]	0.11	0.91 to 21.~~19~~23	0.10 to 2.27	0.81 to 18.~~92~~96	~~3.78~~4.25	0.45	3.~~78~~79
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.11	0.20 to 4.~~69~~70	~~N/A~~-	0.20 to 4.~~69~~70	0.94	~~N/A~~-	0.94
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.11	1.45 to 33.~~84~~91	~~N/A~~-	1.45 to 33.~~84~~91	6.~~77~~78	~~N/A~~-	6.~~77~~78
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.11	0.78 to 18.~~15~~19	~~N/A~~-	0.78 to 18.~~15~~19	3.~~63~~64	~~N/A~~-	3.~~63~~64
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.11	0.71 to 16.~~62~~66	~~N/A~~-	0.71 to 16.~~62~~66	3.~~32~~33	~~N/A~~-	3.~~32~~33
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Burbo Bank	No connectivity	33	No connectivity	0.11	0.01 to 0.26	-	0.01 to 0.26	0.05	-	0.05
Gwynt Y Môr	No connectivity	118	No connectivity	0.11	0.04 to 0.91	-	0.04 to 0.91	0.18	-	0.18
Ormonde Wind Farm	No connectivity	22	No connectivity	0.11	0.01 to 0.17	-	0.01 to 0.17	0.03	-	0.03
Robin Rigg	No connectivity	51	No connectivity	0.11	0.02 to 0.39	-	0.02 to 0.39	0.08	-	0.08
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.11	0.01 to 0.30	-	0.01 to 0.30	0.06	-	0.06
Walney 1 & 2	No connectivity	131	No connectivity	0.11	0.04 to 1.01	-	0.04 to 1.01	0.20	-	0.20
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.11	0.03 to 0.74	-	0.03 to 0.74	0.15	-	0.15
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.35~~1.5.3.38 As the predicted impact on common guillemot from Handa SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.36~~1.5.3.39 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from the Shiant Isles SPA, an in-combination assessment is presented within Table 1-41 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible] 1-[illegible]1 [illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

b – the apportioning value during the breeding season was taken from project specific documentation

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0149	0.07 to 1.75	~~N/A~~-	0.07 to 1.75	0.35	~~N/A~~-	0.35
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0149	0.04 to 0.94	~~N/A~~-	0.04 to 0.94	0.19	~~N/A~~-	0.19
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0149	0.73 to ~~16.99~~17.02	~~N/A~~-	0.73 to ~~16.99~~17.02	3.40	~~N/A~~-	3.40
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0149	0.01 to 0.13	~~N/A~~-	0.01 to 0.13	0.03	~~N/A~~-	0.03
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0149	0.05 to 1.16	~~N/A~~-	0.05 to 1.16	0.23	~~N/A~~-	0.23
West of Orkney Windfarm	~~0.0002~~2,794	2,462	0.0002[b]	0.0149	0.11 to 2.~~60~~61	0.00 to 0.04	0.11 to 2.~~56~~57	0.~~51~~52	0.01	0.51
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0149	0.03 to 0.~~63~~64	~~N/A~~-	0.03 to 0.~~63~~64	0.13	~~N/A~~-	0.13
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0149	0.20 to 4.~~58~~59	~~N/A~~-	0.20 to 4.~~58~~59	0.92	~~N/A~~-	0.92
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0149	0.11 to 2.46	~~N/A~~-	0.11 to 2.46	0.49	~~N/A~~-	0.49
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0149	0.10 to 2.~~25~~26	~~N/A~~-	0.10 to 2.~~25~~26	0.45	~~N/A~~-	0.45
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0149	0.00 to 0.03	-	0.00 to 0.03	0.01	-	0.01
Gwynt Y Môr	No connectivity	118	No connectivity	0.0149	0.01 to 0.12	-	0.01 to 0.12	0.02	-	0.02
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0149	0.00 to 0.02	-	0.00 to 0.02	0.00	-	0.00
Robin Rigg	No connectivity	51	No connectivity	0.0149	0.00 to 0.05	-	0.00 to 0.05	0.01	-	0.01
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0149	0.00 to 0.04	-	0.00 to 0.04	0.01	-	0.01
Walney 1 & 2	No connectivity	131	No connectivity	0.0149	0.01 to 0.14	-	0.01 to 0.14	0.03	-	0.03
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0149	0.00 to 0.10	-	0.00 to 0.10	0.02	-	0.02
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.37~~1.5.3.40 As the predicted impact on common guillemot from Shiant Isles SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.38~~1.5.3.41 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from the Flannan Isles SPA, an in-combination assessment is presented within Table 1-42 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible] 1-[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0284	0.14 to 3.34	~~N/A~~-	0.14 to 3.34	0.67	~~N/A~~-	0.67
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0284	0.08 to 1.~~78~~79	~~N/A~~-	0.08 to 1.~~78~~79	0.36	~~N/A~~-	0.36
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0284	1.39 to 32.~~38~~45	~~N/A~~-	1.39 to 32.~~38~~45	6.~~48~~49	~~N/A~~-	6.~~48~~49
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	125	No connectivity	0.0284	0.01 to 0.25	~~N/A~~-	0.01 to 0.25	0.05	~~N/A~~-	0.05
West of Duddon Sands Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0284	0.09 to 2.~~20~~21	~~N/A~~-	0.09 to 2.~~20~~21	0.44	~~N/A~~-	0.44
West of Orkney Windfarm	2,794	2,462	No connectivity	0.0284	0.21 to 4.~~88~~89	~~N/A~~-	0.21 to 4.~~88~~89	0.98	~~N/A~~-	0.98
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0284	0.05 to 1.21	~~N/A~~-	0.05 to 1.21	0.24	~~N/A~~-	0.24
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0284	0.37 to 8.~~74~~76	~~N/A~~-	0.37 to 8.~~74~~76	1.75	~~N/A~~-	1.75
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0284	0.20 to 4.~~69~~70	~~N/A~~-	0.20 to 4.~~69~~70	0.94	~~N/A~~-	0.94
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0284	0.18 to 4.~~29~~30	~~N/A~~-	0.18 to 4.~~29~~30	0.86	~~N/A~~-	0.86
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0284	0.00 to 0.07	-	0.00 to 0.07	0.01	-	0.01
Gwynt Y Môr	No connectivity	118	No connectivity	0.0284	0.01 to 0.23	-	0.01 to 0.23	0.05	-	0.05
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0284	0.00 to 0.04	-	0.00 to 0.04	0.01	-	0.01
Robin Rigg	No connectivity	51	No connectivity	0.0284	0.00 to 0.10	-	0.00 to 0.10	0.02	-	0.02
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0284	0.00 to 0.08	-	0.00 to 0.08	0.02	-	0.02
Walney 1 & 2	No connectivity	131	No connectivity	0.0284	0.01 to 0.26	-	0.01 to 0.26	0.05	-	0.05
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0284	0.01 to 0.19	-	0.01 to 0.19	0.04	-	0.04
[illegible]					[illegible]	~~0.00~~ [illegible] ~~0.00~~ [illegible]	[illegible]	1 [illegible]	~~0.00~~ [illegible]	1 [illegible]
[illegible]					0 [illegible]	~~0.00~~ [illegible] ~~0.00~~ [illegible]	0 [illegible]	1 ~~0~~ 0 [illegible]	~~0.00~~ [illegible]	1 ~~0~~ 0 [illegible]

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~~1.5.3.37~~

1.5.3.42 As the predicted impact on common guillemot from Flannan Isles SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

~~1.5.3.39~~1.5.3.43 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from St Kilda SPA, an in-combination assessment is presented within Table 1-43 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0455	0.23 to 5.~~34~~35	~~N/A~~-	0.23 to 5.~~34~~35	1.07	~~N/A~~-	1.07
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0455	0.12 to 2.86	~~N/A~~-	0.12 to 2.86	0.57	~~N/A~~-	0.57
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0455	2.22 to 51.~~87~~99	~~N/A~~-	2.22 to 51.~~87~~99	10.~~37~~40	~~N/A~~-	10.37
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0455	0.02 to 0.40	~~N/A~~-	0.02 to 0.40	0.08	~~N/A~~-	0.08
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0455	0.15 to 3.~~53~~54	~~N/A~~-	0.15 to 3.~~53~~54	0.71	~~N/A~~-	0.71
West of Orkney Windfarm	2,794	2,462	No connectivity	0.0455	0.34 to 7.~~83~~84	~~N/A~~-	0.34 to 7.~~83~~84	1.57	~~N/A~~-	1.57
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0455	0.08 to 1.94	~~N/A~~-	0.08 to 1.94	0.39	~~N/A~~-	0.39
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0455	0.60 to 14.~~00~~03	~~N/A~~-	0.60 to 14.~~00~~03	2.~~80~~81	~~N/A~~-	2.~~80~~81
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0455	0.32 to 7.~~51~~52	~~N/A~~-	0.32 to 7.~~51~~52	1.50	~~N/A~~-	1.50
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0455	0.29 to 6.~~88~~89	~~N/A~~-	0.29 to 6.~~88~~89	1.38	~~N/A~~-	1.38
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0455	0.00 to 0.11	-	0.00 to 0.11	0.02	-	0.02
Gwynt Y Môr	No connectivity	118	No connectivity	0.0455	0.02 to 0.38	-	0.02 to 0.38	0.08	-	0.08
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0455	0.00 to 0.07	-	0.00 to 0.07	0.01	-	0.01
Robin Rigg	No connectivity	51	No connectivity	0.0455	0.01 to 0.16	-	0.01 to 0.16	0.03	-	0.03
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0455	0.01 to 0.12	-	0.01 to 0.12	0.02	-	0.02
Walney 1 & 2	No connectivity	131	No connectivity	0.0455	0.02 to 0.42	-	0.02 to 0.42	0.08	-	0.08
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0455	0.01 to 0.30	-	0.01 to 0.30	0.06	-	0.06
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.40~~1.5.3.44 As the predicted impact on common guillemot from St Kilda SPA is >1% increase in baseline mortality, the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.41~~1.5.3.45 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from Canna and Sanday, an in-combination assessment is presented within Table 1-44 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

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a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0113	0.06 to 1.33	~~N/A~~-	0.06 to 1.33	0.27	~~N/A~~-	0.27
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0113	0.03 to 0.71	~~N/A~~-	0.03 to 0.71	0.14	~~N/A~~-	0.14
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0113	0.55 to 12.~~88~~91	~~N/A~~-	0.55 to 12.~~88~~91	2.58	~~N/A~~-	2.58
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0113	0.00 to 0.10	~~N/A~~-	0.00 to 0.10	0.02	~~N/A~~-	0.02
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0113	0.04 to 0.88	~~N/A~~-	0.04 to 0.88	0.18	~~N/A~~-	0.18
West of Orkney Windfarm	2,794	2,462	No connectivity	0.0113	0.08 to 1.~~94~~95	~~N/A~~-	0.08 to 1.~~94~~95	0.39	~~N/A~~-	0.39
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0113	0.02 to 0.48	~~N/A~~-	0.02 to 0.48	0.10	~~N/A~~-	0.10
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0113	0.15 to 3.48	~~N/A~~-	0.15 to 3.48	0.70	~~N/A~~-	0.70
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0113	0.08 to 1.~~86~~87	~~N/A~~-	0.08 to 1.~~86~~87	0.37	~~N/A~~-	0.37
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0113	0.07 to 1.71	~~N/A~~-	0.07 to 1.71	0.34	~~N/A~~-	0.34
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0113	0.00 to 0.03	-	0.00 to 0.03	0.01	-	0.01
Gwynt Y Môr	No connectivity	118	No connectivity	0.0113	0.00 to 0.09	-	0.00 to 0.09	0.02	-	0.02
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0113	0.00 to 0.02	-	0.00 to 0.02	0.00	-	0.00
Robin Rigg	No connectivity	51	No connectivity	0.0113	0.00 to 0.04	-	0.00 to 0.04	0.01	-	0.01
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0113	0.00 to 0.03	-	0.00 to 0.03	0.01	-	0.01
Walney 1 & 2	No connectivity	131	No connectivity	0.0113	0.00 to 0.10	-	0.00 to 0.10	0.02	-	0.02
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0113	0.00 to 0.08	-	0.00 to 0.08	0.02	-	0.02
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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~~1.5.3.42~~1.5.3.46 As the predicted impact on common guillemot from Canda and Sanday SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.43~~1.5.3.47 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from Mingulay and Berneray SPA an in-combination assessment is presented within Table 1-45 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0392	0.20 to 4.~~60~~61	~~N/A~~-	0.20 to 4.~~60~~61	0.92	~~N/A~~-	0.92
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0392	0.11 to 2.~~46~~47	~~N/A~~-	0.11 to 2.~~46~~47	0.49	~~N/A~~-	0.49
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0392	1.92 to 44.~~69~~79	~~N/A~~-	1.92 to 44.~~69~~79	8.~~94~~96	~~N/A~~-	8.~~94~~96
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0392	0.01 to 0.34	~~N/A~~-	0.01 to 0.34	0.07	~~N/A~~-	0.07
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0392	0.13 to 3.~~04~~05	~~N/A~~-	0.13 to 3.~~04~~05	0.61	~~N/A~~-	0.61
West of Orkney Windfarm	2,794	2,462	No connectivity	0.0392	0.29 to 6.~~74~~76	~~N/A~~-	0.29 to 6.~~74~~76	1.35	~~N/A~~-	1.35
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0392	0.07 to 1.67	~~N/A~~-	0.07 to 1.67	0.33	~~N/A~~-	0.33
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0392	0.52 to 12.~~06~~09	~~N/A~~-	0.52 to 12.~~06~~09	2.41	~~N/A~~-	2.41
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0392	0.28 to 6.~~47~~48	~~N/A~~-	0.28 to 6.~~47~~48	1.~~29~~30	~~N/A~~-	1.~~29~~30
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0392	0.25 to 5.~~92~~94	~~N/A~~-	0.25 to 5.~~92~~94	1.~~18~~19	~~N/A~~-	1.~~18~~19
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0392	0.00 to 0.09	-	0.00 to 0.09	0.02	-	0.02
Gwynt Y Môr	No connectivity	118	No connectivity	0.0392	0.01 to 0.32	-	0.01 to 0.32	0.06	-	0.06
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0392	0.00 to 0.06	-	0.00 to 0.06	0.01	-	0.01
Robin Rigg	No connectivity	51	No connectivity	0.0392	0.01 to 0.14	-	0.01 to 0.14	0.03	-	0.03
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0392	0.00 to 0.11	-	0.00 to 0.11	0.02	-	0.02
Walney 1 & 2	No connectivity	131	No connectivity	0.0392	0.02 to 0.36	-	0.02 to 0.36	0.07	-	0.07
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0392	0.01 to 0.26	-	0.01 to 0.26	0.05	-	0.05
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.44~~1.5.3.48 As the predicted impact on common guillemot from Mingulay and Berneray SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.45~~1.5.3.49 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from North Colonsay and western cliffs SPA, an in-combination assessment is presented within Table 1-46 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible] 1-[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0411	0.21 to 4.~~83~~84	~~N/A~~-	0.21 to 4.~~83~~84	0.97	~~N/A~~-	0.97
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0411	0.11 to 2.~~58~~59	~~N/A~~-	0.11 to 2.~~58~~59	0.52	~~N/A~~-	0.52
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.0411	2.01 to 46.~~86~~96	~~N/A~~-	2.01 to 46.~~86~~96	9.~~37~~39	~~N/A~~-	9.~~37~~39
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0411	0.02 to 0.36	~~N/A~~-	0.02 to 0.36	0.07	~~N/A~~-	0.07
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0411	0.14 to 3.19	~~N/A~~-	0.14 to 3.19	0.64	~~N/A~~-	0.64
West of Orkney Windfarm	2,794	2,462	No connectivity	0.0411	0.30 to 7.~~07~~08	~~N/A~~-	0.30 to 7.~~07~~08	1.~~41~~42	~~N/A~~-	1.~~41~~42
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.0411	0.08 to 1.75	~~N/A~~-	0.08 to 1.75	0.35	~~N/A~~-	0.35
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0411	0.54 to 12.~~64~~67	~~N/A~~-	0.54 to 12.~~64~~67	2.53	~~N/A~~-	2.53
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0411	0.29 to 6.~~78~~80	~~N/A~~-	0.29 to 6.~~78~~80	1.36	~~N/A~~-	1.36
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0411	0.27 to 6.~~21~~22	~~N/A~~-	0.27 to 6.~~21~~22	1.24	~~N/A~~-	1.24
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.0411	0.00 to 0.10	-	0.00 to 0.10	0.02	-	0.02
Gwynt Y Môr	No connectivity	118	No connectivity	0.0411	0.01 to 0.34	-	0.01 to 0.34	0.07	-	0.07
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0411	0.00 to 0.06	-	0.00 to 0.06	0.01	-	0.01
Robin Rigg	No connectivity	51	No connectivity	0.0411	0.01 to 0.15	-	0.01 to 0.15	0.03	-	0.03
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0411	0.00 to 0.11	-	0.00 to 0.11	0.02	-	0.02
Walney 1 & 2	No connectivity	131	No connectivity	0.0411	0.02 to 0.38	-	0.02 to 0.38	0.08	-	0.08
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0411	0.01 to 0.28	-	0.01 to 0.28	0.05	-	0.05
[illegible]					[illegible]	~~0.00~~ ~~0.00~~-	[illegible]	1 [illegible]	~~0.00~~-	1 [illegible]
[illegible]					[illegible]	~~0.00~~ ~~0.00~~-	[illegible]	1 ~~1~~ 1 [illegible]	~~0.00~~-	1 ~~1~~ 1 [illegible]

~~1.5.3.46~~1.5.3.50 As the predicted impact on common guillemot from North Colonsay and Western Cliffs SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.47~~1.5.3.51 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from Ailsa Craig SPA, an in-combination assessment is presented within Table 1-47 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

[illegible]	[illegible]				[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.016	0.08 to 1.88	~~N/A~~-	0.08 to 1.88	0.38	~~N/A~~-	0.38
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.016	0.04 to 1.00	~~N/A~~-	0.04 to 1.00	0.20	~~N/A~~-	0.20
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.016	0.78 to 18.~~24~~28	~~N/A~~-	0.78 to 18.~~24~~28	3.~~65~~66	~~N/A~~-	3.~~65~~66
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.016	0.01 to 0.14	~~N/A~~-	0.01 to 0.14	0.03	~~N/A~~-	0.03
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.016	0.05 to 1.24	~~N/A~~-	0.05 to 1.24	0.25	~~N/A~~-	0.25
West of Orkney Windfarm	2,794	2,462	No connectivity	0.016	0.12 to 2.~~75~~76	~~N/A~~-	0.12 to 2.~~75~~76	0.55	~~N/A~~-	0.55
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.016	0.03 to 0.68	~~N/A~~-	0.03 to 0.68	0.14	~~N/A~~-	0.14
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.016	0.21 to 4.~~92~~93	~~N/A~~-	0.21 to 4.~~92~~93	0.~~98~~99	~~N/A~~-	0.~~98~~99
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.016	0.11 to 2.~~64~~65	~~N/A~~-	0.11 to 2.~~64~~65	0.53	~~N/A~~-	0.53
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.016	0.10 to 2.42	~~N/A~~-	0.10 to 2.42	0.48	~~N/A~~-	0.48
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.016	0.00 to 0.04	-	0.00 to 0.04	0.01	-	0.01
Gwynt Y Môr	No connectivity	118	No connectivity	0.016	0.01 to 0.13	-	0.01 to 0.13	0.03	-	0.03
Ormonde Wind Farm	No connectivity	22	No connectivity	0.016	0.00 to 0.03	-	0.00 to 0.03	0.01	-	0.01
Robin Rigg	No connectivity	51	No connectivity	0.016	0.00 to 0.06	-	0.00 to 0.06	0.01	-	0.01
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.016	0.00 to 0.04	-	0.00 to 0.04	0.01	-	0.01
Walney 1 & 2	No connectivity	131	No connectivity	0.016	0.01 to 0.15	-	0.01 to 0.15	0.03	-	0.03
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.016	0.00 to 0.11	-	0.00 to 0.11	0.02	-	0.02
[illegible]					1 [illegible]	~~0.00~~ [illegible] ~~0.00~~-	1 [illegible]	~~1~~ 1 [illegible]	~~0.00~~-	~~1~~ 1 [illegible]
[illegible]					0 [illegible] ~~1~~ 1 [illegible]	~~0.00~~ [illegible] ~~0.00~~-	0 [illegible] ~~1~~ 1 [illegible]	1 ~~1~~ 1 [illegible]	~~0.00~~-	1 ~~1~~ 1 [illegible]

~~1.5.3.48~~1.5.3.52 As the predicted impact on common guillemot from Ailsa Craig SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.49~~1.5.3.53 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from Rathlin Island SPA, an in-combination assessment is presented within Table 1-48 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.2664	1.34 to 31.~~28~~35	~~N/A~~-	1.34 to 31.~~28~~35	6.~~26~~27	~~N/A~~-	6.~~26~~27
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.2664	0.72 to 16.~~73~~77	~~N/A~~-	0.72 to 16.~~73~~77	3.35	~~N/A~~-	3.35
Erebus Floating Wind Demo	No connectivity	16,322	No connectivity	0.2664	13.02 to ~~303.71~~304.37	~~N/A~~-	13.02 to ~~303.71~~304.37	60.~~74~~87	~~N/A~~-	60.~~74~~87
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.2664	0.10 to 2.33	~~N/A~~-	0.10 to 2.33	0.47	~~N/A~~-	0.47
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.2664	0.89 to 20.~~65~~70	~~N/A~~-	0.89 to 20.~~65~~70	4.~~13~~14	~~N/A~~-	4.~~13~~14
West of Orkney Windfarm	2,794	2,462	No connectivity	0.2664	1.96 to 45.~~82~~92	~~N/A~~-	1.96 to 45.~~82~~92	9.~~16~~18	~~N/A~~-	9.~~16~~18
White Cross Offshore Windfarm	No connectivity	610	No connectivity	0.2664	0.49 to 11.~~35~~37	~~N/A~~-	0.49 to 11.~~35~~37	2.27	~~N/A~~-	2.27
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.2664	3.51 to ~~81.95~~82.13	~~N/A~~-	3.51 to ~~81.95~~82.13	16.~~39~~43	~~N/A~~-	16.~~39~~43
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.2664	1.88 to ~~43.95~~44.05	~~N/A~~-	1.88 to ~~43.95~~44.05	8.~~79~~81	~~N/A~~-	8.~~79~~81
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.2664	1.73 to 40.~~25~~34	~~N/A~~-	1.73 to 40.~~25~~34	8.~~05~~07	~~N/A~~-	8.~~05~~07
[illegible]										
Burbo Bank	No connectivity	33	No connectivity	0.2664	0.03 to 0.62	-	0.03 to 0.62	0.12	-	0.12
Gwynt Y Môr	No connectivity	118	No connectivity	0.2664	0.09 to 2.20	-	0.09 to 2.20	0.44	-	0.44
Ormonde Wind Farm	No connectivity	22	No connectivity	0.2664	0.02 to 0.42	-	0.02 to 0.42	0.08	-	0.08
Robin Rigg	No connectivity	51	No connectivity	0.2664	0.04 to 0.94	-	0.04 to 0.94	0.19	-	0.19
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.2664	0.03 to 0.73	-	0.03 to 0.73	0.15	-	0.15
Walney 1 & 2	No connectivity	131	No connectivity	0.2664	0.10 to 2.44	-	0.10 to 2.44	0.49	-	0.49
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.2664	0.08 to 1.78	-	0.08 to 1.78	0.36	-	0.36
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.50~~1.5.3.54 As the predicted impact on common guillemot from Rathlin Island SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to conclude an if an AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.51~~1.5.3.55 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline common guillemot from Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro SPA, an in-combination assessment is presented within Table 1-49 (30-70% displacement and 1-10% mortality; 70% displacement and 2% mortality).

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For common guillemot, the proportions are 57.47% of birds are adults in the breeding period, 57.60% of birds are adults in the non-breeding period.

b – the apportioning value during the breeding season was taken from project specific documentation

c – the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.754.

[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	No connectivity	1,681	No connectivity	0.0447	0.22 to 5.~~25~~26	~~N/A~~-	0.22 to 5.~~25~~26	1.05	~~N/A~~-	1.05
Burbo Bank Extension Offshore Wind Farm	No connectivity	899	No connectivity	0.0447	0.12 to 2.81	~~N/A~~-	0.12 to 2.81	0.56	~~N/A~~-	0.56
Erebus Floating Wind Demo	No connectivity	16,322	0.754 [b]	0.0447	11.29 to 263.~~32~~43	9.10 to 212.36	2.18 to ~~50.96~~51.07	52.~~66~~69	42.47	10.~~19~~21
TwinHub (Wave Hub Floating Wind Farm)	No connectivity	125	No connectivity	0.0447	0.02 to 0.39	~~N/A~~-	0.02 to 0.39	0.08	~~N/A~~-	0.08
Walney (3 and 4) Extension Offshore Wind Farm	No connectivity	1,110	No connectivity	0.0447	0.15 to 3.47	~~N/A~~-	0.15 to 3.47	0.69	~~N/A~~-	0.69
West of Orkney Windfarm	2,794	2,462	No connectivity	0.0447	0.33 to 7.~~69~~70	~~N/A~~-	0.33 to 7.~~69~~70	1.54	~~N/A~~-	1.54
White Cross Offshore Windfarm	No connectivity	610	0.754 [c]	0.0447	4.38 to 102.13	4.30 to 100.22	0.08 to 1.~~90~~91	20.43	20.04	0.38
Morecambe Offshore Windfarm Generation Assets	No connectivity	4,404	No connectivity	0.0447	0.59 to 13.~~75~~78	~~N/A~~-	0.59 to 13.~~75~~78	2.~~75~~76	~~N/A~~-	2.~~75~~76
Morgan Offshore Wind Project Generation Assets	No connectivity	2,362	No connectivity	0.0447	0.32 to 7.~~37~~39	~~N/A~~-	0.32 to 7.~~37~~39	1.~~47~~48	~~N/A~~-	1.~~47~~48
Mona Offshore Wind Project	No connectivity	2,163	No connectivity	0.0447	0.29 to 6.~~75~~77	~~N/A~~-	0.29 to 6.~~75~~77	1.35	~~N/A~~-	1.35
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Burbo Bank	No connectivity	33	No connectivity	0.0447	0.00 to 0.10	-	0.00 to 0.10	0.02	-	0.02
Gwynt Y Môr	No connectivity	118	No connectivity	0.0447	0.02 to 0.37	-	0.02 to 0.37	0.07	-	0.07
Ormonde Wind Farm	No connectivity	22	No connectivity	0.0447	0.00 to 0.07	-	0.00 to 0.07	0.01	-	0.01
Robin Rigg	No connectivity	51	No connectivity	0.0447	0.01 to 0.16		0.01 to 0.16	0.03	-	0.03
Rhyl Flats Offshore Wind Farm	No connectivity	39	No connectivity	0.0447	0.01 to 0.12	-	0.01 to 0.12	0.02	-	0.02
Walney 1 & 2	No connectivity	131	No connectivity	0.0447	0.02 to 0.41	-	0.02 to 0.41	0.08	-	0.08
West of Duddon Sands Offshore Wind Farm	No connectivity	96	No connectivity	0.0447	0.01 to 0.30	-	0.01 to 0.30	0.06	-	0.06
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.52~~1.5.3.56 As the predicted impact on common guillemot from Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro SPA is >1% increase in baseline mortality the impact is further investigated by a PVA (see section 1.6.3) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.53~~1.5.3.57 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in baseline great black-backed gull mortality from the Isles of Scilly SPA, an in-combination assessment is presented within Table 1-50.

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults . All projects have used the proportion of adults/immatures within the Appendix tables in Furness (2015) for age-class apportioning during the non-breeding season which is that 31.9% of birds are adults.

b – TwinHub presented an annual impact only (Atlantic Ecology, 2018), this annual impact was corrected by using the input density estimates (as a proportion of the annual density) for each month.

C – Ormonde Wind Farm presented an annual impact only (2.36 when considering 95% avoidance). For precaution and as no monthly breakdown of abundance/density was available 100% of the impact is considered as part of the non-breeding season.

[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	0.20	0.2885	0.06
Erebus Floating Wind Demo	0.26	0.2885	0.~~07~~08
TwinHub (Wave Hub Floating Wind Farm)	2.93[b]	0.2885	~~1.91~~0.29
Mona Offshore Wind Project	1.01	0.2885	0.~~64~~04
Morecambe Offshore Windfarm Generation Assets	0.14	0.2885	0.~~04~~07
Morgan Offshore Wind Project Generation Assets	0.23	0.2885	0.~~42~~03
Ormonde Wind Farm	0.09[c]	0.2885	~~0.02~~1.25
Rampion Offshore Wind Farm	4.34	0.2885	~~2.44~~3.07
Rampion 2 (Rampion Extension) Offshore Wind Farm	10.62	0.2885	~~1.26~~0.84
Walney (3 and 4) Extension Offshore Wind Farm	6.48	0.2885	~~2.72~~1.85
White Cross Offshore Windfarm	0.00	0.2885	0.00
[illegible]			
Burbo Bank	0.32	0.2885	0.09
Burbo Bank Extension	0.88	0.2885	0.25
Gwynt y Môr Offshore Wind Farm	1.45	0.2885	0.42
Rhyl Flats Offshore Wind Farm	0.38	0.2885	0.11
Robin Rigg	0.83	0.2885	0.24
Walney 1	0.65	0.2885	0.19
Walney 2	0.78	0.2885	0.22
West of Duddon Sands Offshore Wind Farm	1.01	0.2885	0.29
[illegible]			[illegible]
[illegible]			[illegible]

~~1.5.3.54~~1.5.3.58 As the predicted impact on great black-backed gull from Isles of Scilly SPA is >1% increase in baseline mortality, the impact is further investigated by a PVA (see section 1.6.5) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

~~1.5.3.55~~1.5.3.59 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in Manx shearwater –baseline mortality from Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA, an in-combination assessment is presented within Table 1-51 (30-70% displacement and 1-10% mortality).

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a – the apportioning value during the breeding season was taken from project specific documentation

b – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.0421.

c – the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.003.

d – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.085.

e – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For Manx shearwater, the proportions are 54.34% of birds are adults in the breeding period and 62.77% of birds are adults in the pre-breeding and post-breeding periods..

[illegible]	[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	111	14	134	0.00326	0.0421 [a]	0.00326	0.00 to 0.~~02~~03	0.00 to 0.04	0.00 to 0.~~00~~03	0.00 to 0.~~06~~10
Burbo Bank Extension Offshore Wind Farm	0	241	1	0.00326	0.0421 [b]	0.00326	0.00 to 0.00	0.03 to 0.71	0.00 to 0.00	0.03 to 0.71
Erebus Floating Wind Demo	11	837	350	0.00326	0.003 [a]	0.00326	0.00 to 0.00	0.~~00~~01 to 0.18	0.00 to 0.~~07~~08	0.~~00~~01 to 0.~~25~~26
TwinHub (Wave Hub Floating Wind Farm)	0	690	2	0.00326	0.003 [c]	0.00326	0.00 to 0.00	0.01 to 0.~~15~~14	0.00 to 0.00	0.01 to 0.15
Ormonde Wind Farm	0	544	1	0.00326	0.~~0863~~085 [d]	0.00326	0.00 to 0.00	0.14 to 3.~~29~~24	0.00 to 0.00	0.14 to 3.~~29~~24
Mona Offshore Wind Project	2	679	10	0.00326	0.1134 [a]	0.00326	0.00 to 0.00	0.23 to 5.39	0.00 to 0.~~02~~00	0.23 to 5.~~41~~39
Morecambe Offshore Windfarm Generation Assets	0	4118	4	0.00326	0.0863 [a]	0.00326	0.00 to 0.00	1.07 to 24.88	0.00 to 0.00	1.07 to 24.88
Morgan Offshore Wind Project Generation Assets	37	254	293	0.00326	0.085 [a]	0.00326	0.00 to 0.01	0.06 to 1.51	0.00 to 0.~~06~~07	0.07 to 1.~~58~~59
Rampion Offshore Wind Farm	0	18	0	0.00326	No connectivity	0.00326	0.00 to 0.00	~~N/A~~-	0.00 to 0.00	0.00 to 0.00
Rampion 2 Offshore Wind Farm	0	0	0	0.00326	No connectivity	0.00326	0.00 to 0.00	~~N/A~~-	0.00 to 0.00	0.00 to 0.00
Walney (3 and 4) Extension Offshore Wind Farm	0	320	203	0.00326	0.~~0863~~085 [d]	0.00326	0.00 to 0.00	0.08 to 1.~~93~~90	0.00 to 0.~~04~~05	0.08 to 1.~~97~~95
West of Duddon Sands Offshore Wind Farm	1	296	2	0.00326	0.~~0863~~085 [d]	0.00326	0.00 to 0.00	0.08 to 1.~~79~~76	0.00 to 0.00	0.08 to 1.~~79~~76
West of Orkney Windfarm	0	4	2	0.00326	No connectivity	0.00326	0.00 to 0.00	~~N/A~~-	0.00 to 0.00	0.00 to 0.00
White Cross Offshore Windfarm	7,611	18	14	0.00326	0.0028 [a]	0.00326	0.~~06~~07 to 1.~~50~~74	0.00 to 0.00	0.00 to 0.00	0.~~06~~07 to 1.~~51~~74
[illegible]										
Burbo Bank Offshore Wind Farm	0	1	1	0.00326	0.0421 [b]	0.00326	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00
Gwynt y Môr Offshore Wind Farm	1	7	2	0.00326	0.0421 [b]	0.00326	0.00 to 0.00	0.00 to 0.02	0.00 to 0.00	0.00 to 0.02
Robin Rigg	0	2	1	0.00326	0.085 [d]	0.00326	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.00 to 0.01
Rhyl Flats	0	2	1	0.00326	0.0421 [b]	0.00326	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.00 to 0.01
Walney 1 & 2	1	8	3	0.00326	0.085 [d]	0.00326	0.00 to 0.00	0.00 to 0.05	0.00 to 0.00	0.00 to 0.05
[illegible]							0.~~0~~08 to 1.~~[illegible]~~77	1.~~0~~71 to 39.~~[illegible]~~84	0.01 to 0.~~1~~23	1.~~[illegible]~~79 to 41.~~[illegible]~~84
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.56~~1.5.3.60 As the predicted impact on Manx shearwater from Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is not considered to hinder the conservation objectives of the site, and therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

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~~1.5.3.57~~1.5.3.61 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in Manx shearwater ~~-~~baseline mortality from Copeland Islands SPA, an in-combination assessment is presented within Table 1-52 (30-70% displacement and 1-10% mortality).

[illegible]

a – the apportioning value during the breeding season was taken from project specific documentation

b – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.0059.

c – the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.0028.

d – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.035.

e – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For Manx shearwater, the proportions are 54.34% of birds are adults in the breeding period and 62.77% of birds are adults in the pre-breeding and post-breeding periods..

[illegible]	[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	111	14	134	0.001	0.0059 [a]	0.001	0.00 to 0.01	0.00 to 0.01	0.00 to 0.~~00~~01	0.00 to 0.~~01~~02
Burbo Bank Extension Offshore Wind Farm	0	241	1	0.001	0.0059 [b]	0.001	0.00 to 0.00	0.00 to 0.10	0.00 to 0.00	0.00 to 0.10
Erebus Floating Wind Demo	11	837	350	0.001	0.0028 [a]	0.001	0.00 to 0.00	0.~~00~~01 to 0.16	0.00 to 0.02	0.~~00~~01 to 0.19
TwinHub (Wave Hub Floating Wind Farm)	0	690	2	0.001	0.0028 [c]	0.001	0.00 to 0.00	0.01 to 0.14	0.00 to 0.00	0.01 to 0.14
Ormonde Wind Farm	0	544	1	0.001	0.~~0222~~035 [d]	0.001	0.00 to 0.00	0.~~04~~06 to ~~0.85~~1.33	0.00 to 0.00	0.~~04~~06 to ~~0.85~~1.33
Mona Offshore Wind Project	2	679	10	0.001	0.022 [a]	0.001	0.00 to 0.00	0.04 to 1.05	0.00 to 0.~~01~~00	0.~~05~~04 to 1.05
Morecambe Offshore Windfarm Generation Assets	0	4118	4	0.001	0.0222 [a]	0.001	0.00 to 0.00	0.27 to 6.40	0.00 to 0.00	0.27 to 6.40
Morgan Offshore Wind Project Generation Assets	37	254	293	0.001	0.035 [a]	0.001	0.00 to 0.00	0.03 to 0.62	0.00 to 0.02	0.03 to 0.64
Rampion Offshore Wind Farm	0	18	0	0.001	No connectivity	0.001	0.00 to 0.00	~~N/A~~	0.00 to 0.00	0.00 to 0.00
Rampion 2 Offshore Wind Farm	0	0	0	0.001	No connectivity	0.001	0.00 to 0.00	~~N/A~~	0.00 to 0.00	0.00 to 0.00
Walney (3 and 4) Extension Offshore Wind Farm	0.~~001~~	~~0.0222~~320	~~0.001~~203	0.~~00 to 0.00~~001	0.035 [d]	0.001	0.00 to 0.00	0.03 to 0.~~77~~78	0.00 to 0.~~00~~01	0.03 to 0.~~77~~80
West of Duddon Sands Offshore Wind Farm	~~0.001~~1	~~0.0222~~296	~~0.001~~2	0.~~00 to 0.00~~001	0.~~02 to 0.46~~035 [d]	0.~~00 to 0.00~~001	0.~~02~~00 to 0.~~46~~00	0.03 to 0.72	0.00 to 0.00	0.03 to 0.72
West of Orkney Windfarm	0.~~001~~	4	2	0.001	No connectivity	0.001	0.00 to 0.00	~~N/A~~	0.00 to 0.00	0.00 to 0.00
White Cross Offshore Windfarm	~~0.001~~7,611	18	14	0.001	0.0002 [a]	0.001	0.02 to 0.~~46~~53	0.00 to 0.00	0.00 to 0.00	0.02 to 0.~~46~~53
[illegible]										
Burbo Bank Offshore Wind Farm	0	1	1	0.001	0.0059 [b]	0.001	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00
Gwynt y Môr Offshore Wind Farm	1	7	2	0.001	0.0059 [b]	0.001	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00
Robin Rigg	0	2	1	0.001	0.035 [d]	0.001	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00
Rhyl Flats	0	2	1	0.001	0.0059 [b]	0.001	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00
Walney 1 & 2	1	8	3	0.001	0.035 [d]	0.001	0.00 to 0.00	0.00 to 0.02	0.00 to 0.00	0.00 to 0.02
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]

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~~1.5.3.58~~1.5.3.62 As the predicted impact on Manx shearwater from Copeland Island SPA is <1% increase in baseline mortality, therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects, the impact is not considered to hinder the conservation objects of the site and, therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

[illegible]

~~1.5.3.59~~1.5.3.63 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in Manx shearwater baseline mortality from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA, an in-combination assessment is presented within Table 1-53 (30-70% displacement and 1-10% mortality).

[illegible]

a – the apportioning value during the breeding season was taken from project specific documentation

b – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.4436.

c – the apportioning value during the breeding season has used that of Erebus Floating Wind Demo, specifically 0.995.

d – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.752.

e – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For Manx shearwater, the proportions are 54.34% of birds are adults in the breeding period and 62.77% of birds are adults in the pre-breeding and post-breeding periods.

[illegible]	[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	111	14	134	0.7054	0.4436 [a]	0.7054	0.~~20~~24 to ~~4.75~~5.49	0.02 to 0.44	0.~~00~~28 to ~~0.00~~6.63	0.~~22~~54 to ~~5.19~~12.56
Burbo Bank Extension Offshore Wind Farm	0	241	1	0.7054	0.4436 [b]	0.7054	0.00 to 0.00	0.32 to 7.49	0.00 to 0.~~00~~03	0.32 to 7.~~49~~52
Erebus Floating Wind Demo	11	837	350	0.7054	0.995 [a]	0.7054	~~2.21~~0.02 to 0.~~48~~56	~~0.40~~2.50 to 58.29	~~1.35~~0.74 to ~~14.95~~17.26	3.~~96~~26 to ~~73.72~~76.12
TwinHub (Wave Hub Floating Wind Farm)	0	690	2	0.7054	0.995 [c]	0.7054	0.00 to 0.00	2.~~07~~06 to 48.~~19~~07	0.00 to 0.~~00~~09	2.~~07~~06 to 48.~~19~~17
Ormonde Wind Farm	0	544	1	0.7054	0.752 [d]	0.7054	0.00 to 0.00	1.~~25~~23 to ~~29.18~~28.64	0.00 to 0.~~00~~03	1.~~25~~23 to ~~29.18~~28.67
Mona Offshore Wind Project	2	679	10	0.7054	0.7497 [a]	0.7054	0.00 to 0.~~08~~09	1.53 to 35.62	0.02 to 0.50	~~0.21~~1.55 to ~~4.88~~36.21 ~~1.74 to 40.59~~
Morecambe Offshore Windfarm Generation Assets	0	4118	4	0.7054	0.7654 [a]	0.7054	0.00 to 0.00	9.46 to 220.63	0.01 to 0.~~16~~19	9.46 to 220.~~79~~82
Morgan Offshore Wind Project Generation Assets	37	254	293	0.7054	0.752 [a]	0.7054	0.~~07~~08 to 1.~~58~~83	0.57 to 13.36	0.~~54~~62 to ~~12.53~~14.47	1.~~18~~27 to ~~27.48~~29.66
Rampion Offshore Wind Farm	0	18	0	0.7054	No connectivity	0.7054	0.00 to 0.00	~~N/A to N/A~~-	0.00 to 0.00	0.00 to 0.00
Rampion 2 Offshore Wind Farm	0	0	0	0.7054	No connectivity	0.7054	0.00 to 0.00	~~N/A to N/A~~-	0.00 to 0.00	0.00 to 0.00
Walney (3 and 4) Extension Offshore Wind Farm	0	320	203	0.7054	0.~~7654~~752 [d]	0.7054	0.00 to 0.00	~~1.14~~0.72 to ~~26.56~~16.82	0.~~00~~43 to ~~0.00~~10.04	1.~~14~~15 to 26.~~56~~86
West of Duddon Sands Offshore Wind Farm	1	296	2	0.7054	0.~~7654~~752 [d]	0.7054	0.00 to 0.~~00~~03	0.~~68~~67 to 15.~~96~~56	0.00 to 0.~~00~~09	0.~~68~~67 to 15.~~96~~69
West of Orkney Windfarm	0	4	2	0.7054	No connectivity	0.7054	0.00 to 0.00	~~0.00 to 0.00~~-	0.00 to 0.~~08~~09	0.00 to 0.~~08~~09
White Cross Offshore Windfarm	7,611	18	14	0.7054	0.6032 [a]	0.7054	~~13.95~~16.11 to ~~325.41~~375.84	0.03 to 0.76	0.03 to 0.~~59~~68	~~14.00~~16.17 to ~~326.76~~377.28
[illegible]										
Burbo Bank Offshore Wind Farm	0	1	1	0.001	0.0059 [b]	0.001	0.00 to 0.00	0.00 to 0.03	0.00 to 0.03	0.00 to 0.06
Gwynt y Môr Offshore Wind Farm	1	7	2	0.001	0.0059 [b]	0.001	0.00 to 0.03	0.01 to 0.22	0.00 to 0.09	0.01 to 0.34
Robin Rigg	0	2	1	0.001	0.752 [d]	0.001	0.00 to 0.00	0.00 to 0.09	0.00 to 0.03	0.01 to 0.12
Rhyl Flats	0	2	1	0.001	0.0059 [b]	0.001	0.00 to 0.00	0.00 to 0.07	0.00 to 0.03	0.00 to 0.10
Walney 1 & 2	1	8	3	0.001	0.752 [d]	0.001	0.00 to 0.03	0.02 to 0.40	0.01 to 0.12	0.02 to 0.56
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]
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~~1.5.3.60~~1.5.3.64 As the predicted impact on Manx shearwater from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA is <1% increase in baseline mortality, which is likely to be undetectable against natural variation, the impact is not considered to hinder the conservation objects of the site, and therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects.

[illegible]

[illegible]

~~1.5.3.61~~1.5.3.65 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in northern gannet baseline mortality from Alisa Craig SPA, an in-combination assessment is presented within Table 1-54 (80% displacement and 10% mortality and species-group avoidance rate).

Table 1-54 [illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For northern gannet, the proportions are 55.25% of birds are adults in the breeding period, 59.16% of birds are adults in the pre-breeding period and 58.25% of birds are adults in the post-breeding season.

b – the apportioning value during the breeding season was taken from project specific documentation

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.568.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.462.

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	0	181	117	0.00	6.01	1.48	0.1386	0.~~4620~~462[b]	0.1706	0.00 to 0.00	0.50 to 6.70	0.~~11~~12 to 1.~~52~~60	0.00	~~2.78~~9.47	~~0.24~~1.85	0.00 to 0.00	3.28 to 9.47	0.37 to 1.~~75~~85	3.65 to 11.32
Burbo Bank Extension Offshore Wind Farm	15	358	13	0.00	6.87	0.00	0.1386	0.~~4620~~462[d]	0.1706	0.01 to 0.~~15~~16	0.99 to 13.23	0.01 to 0.17	0.~~00~~16	16.41	~~3~~0.17	0.~~00~~01 to 0.16 ~~0.15~~	4.17 to 16.41	0.01 to 0.17	4.19 to 16.75
Erebus Floating Wind Demo	59	124	195	0.36	1.86	0.35	0.1386	No connectivity	0.1706	0.05 to 0.~~61~~66	~~N/A~~-	0.~~19~~20 to 2.~~52~~66	0.~~05~~71	~~N/A~~-	~~0.06~~2.72	0.~~66~~10 to 0.71	~~N/A~~-	0.26 to 2.~~58~~72	0.36 to 3.42
TwinHub (Wave Hub Floating Wind Farm)	0	135	89	0.00	14.43	0.00	0.1386	No connectivity	0.1706	0.00 to 0.00	~~N/A~~-	0.09 to 1.~~15~~22	0.00	~~N/A~~-	~~0.00~~1.22	0.00 to 0.00	~~N/A~~-	0.09 to 1.~~15~~22	0.09 to 1.22
Ormonde Wind Farm	2	110	3	0.00	3.71	0.00	0.1386	0.~~5078~~568[c]	0.1706	0.00 to 0.~~00~~02	0.~~33~~37 to ~~4.47~~5.00	0.00 to 0.~~00~~05	0.~~00~~02	~~1.89~~7.11	0.~~00~~05	0.00 to 0.02	~~6.35~~2.48 to 7.11	0.00 to 0.05	2.49 to 7.17
Mona Offshore Wind Project	17	139	34	0.24	2.61	0.30	0.1386	0.~~5620~~562[b]	0.1706	0.01 to 0.~~17~~18	0.47 to 6.23	0.03 to 0.~~44~~46	0.~~03~~22	~~1.47~~7.70	0.51	0.05 to 0.22 ~~0.20~~	1.94 to 7.70	0.~~49~~09 to 0.51	2.07 to 8.43
Morecambe Offshore Windfarm Generation Assets	0	413	96	0.00	0.04	0.00	0.1386	0.~~5078~~5078[b]	0.1706	0.00 to 0.00	1.26 to 16.79	0.~~09~~10 to 1.~~24~~30	0.00	~~0.02~~16.81	~~0.00~~1.30	0.00 to 0.00	1.28 to 16.81	0.10 to 1.~~24~~30	1.38 to 18.11
Morgan Offshore Wind Project Generation Assets	31	115	112	0.13	0.93	0.15	0.1386	0.~~5680~~568[b]	0.1706	0.~~02~~03 to 0.~~32~~35	0.39 to 5.25	0.11 to 1.~~45~~53	0.~~02~~37	~~0.53~~5.77	~~0.02~~1.55	0.~~34~~04 to 0.37	0.92 to 5.77	0.14 to 1.~~47~~55	1.10 to 7.69
Walney (3 and 4) Extension Offshore Wind Farm	14	83	151	0.54	9.00	9.65	0.1386	0.~~5078~~568[c]	0.1706	0.01 to 0.~~15~~16	0.~~25~~28 to 3.~~37~~77	0.15 to ~~1.95~~2.06	0.~~07~~23	~~4.57~~8.88	~~1.56~~3.70	0.~~22~~09 to 0.23	~~7.94~~5.40 to 8.88	1.80 to 3.~~51~~70	7.28 to 12.82
West of Duddon Sands Offshore Wind Farm	7	238	10	0.15	1.08	0.19	0.1386	0.~~5078~~568[c]	0.1706	0.~~00~~01 to 0.~~00~~07	0.~~73~~81 to ~~9.67~~10.82	0.~~00~~01 to 0.~~00~~14	0.~~00~~09	~~0.00~~11.44	0.~~00~~18	0.~~00~~03 to 0.09	~~9.67~~1.43 to 11.44	0.~~00~~04 to 0.18	1.50 to 11.70

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	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
West of Orkney Windfarm	35	529	682	1.25	18.67	7.53	0.1386	0.~~0003~~0003^b	0.1706	0.03 to 0.~~36~~39	0.00 to 0.01	0.~~66~~70 to ~~8.83~~9.31	0.~~16~~56	0.~~01~~02	~~1.22~~10.59	0.~~52~~20 to 0.56	0.01 to 0.02	1.98 to 10.~~05~~59	2.19 to 11.17
White Cross Offshore Windfarm	83	132	44	0.00	2.44	0.98	0.1386	0.~~0112~~0112^b	0.1706	0.~~06~~07 to 0.~~86~~92	0.01 to 0.12	0.05 to 0.60	0.92	0.15	0.77	0.07 to 0.92	0.04 to 0.~~57~~15	0.~~00~~21 to 0.77	0.~~03~~32 to 1.84 ~~0.16~~ ~~0.86~~ ~~0.15~~ ~~0.73~~
[illegible]																			
Burbo Bank	2	3	3	0.04	0.20	0.03	0.1386	0.462^d	0.1706	0.00 to 0.02	0.01 to 0.12	0.00 to 0.04	0.02	0.21	0.05	0.01 to 0.02	0.10 to 0.21	0.01 to 0.05	0.12 to 0.28
~~[illegible]~~Gwynt y Môr Offshore Wind Farm	~~0.0[illegible]~~8	15	12	0.60	4.~~[illegible]~~03	~~1[illegible]~~0.72	0.~~[illegible]~~1386	~~1[illegible]~~0.462^d	~~[illegible]1~~0.1706	0.01 to 0.09	0.04 to 0.55	0.01 to 0.16	0.17	2.41	0.28	0.09 to 0.17	~~0[illegible]~~1.90 to 2.~~[illegible]~~41	~~[illegible]~~0.14 to ~~[illegible]1[illegible]~~0.28	2.13 to 2.87
Robin Rigg	2	6	4	0.05	0.39	0.07	0.1386	0.568^c	0.1706	0.00 to 0.03	0.02 to 0.28	0.00 to 0.06	0.03	0.50	0.07	0.01 to 0.03	0.24 to 0.50	0.02 to 0.07	0.27 to 0.60
~~[illegible]~~Rhyl Flats Offshore Wind Farm	~~0.00[illegible] 0.0[illegible]~~2	~~0.0[illegible] 1[illegible]~~4	3	0.24	0.57	0.10	0.1386	0.462^c	0.1706	0.~~0[illegible]~~00 to 0.~~[illegible]~~03	0.01~~[illegible]~~ to 0.16	0.~~01[illegible]~~00 to 0.05~~[illegible]~~	0.~~[illegible] 1[illegible]~~06	0.43	0.07	0.03 to 0.06	0.~~0[illegible]~~28 to 0.43~~[illegible]~~	0.02 to 0.07	0.33 to 0.55
Walney 1 and 2	9	20	15	0.15	1.06	0.19	0.1386	0.568^d	0.1706	0.01 to 0.10	0.07 to 0.90	0.02 to 0.21	0.12	1.50	0.24	0.03 to 0.12	0.67 to 1.50	0.05 to 0.24	0.74 to 1.86
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.62~~1.5.3.66 As the predicted impact on northern gannet from Ailsa Craig SPA is >1% increase in baseline mortality, the impact is further investigated by a PVA (see section 1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

~~1.5.3.63~~1.5.3.67 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in northern gannet baseline mortality from Grassholm SPA, an in-combination assessment is presented within Table 1-55 (60-80% displacement and 1-10% mortality and species-group avoidance rate).

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a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For northern gannet, the proportions are 55.25% of birds are adults in the breeding period, 59.16% of birds are adults in the pre-breeding period and 58.25% of birds are adults in the post-breeding season.

b – the apportioning value during the breeding season was taken from project specific documentation

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.258.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.367.

e – the apportioning value during the breeding seas has used that of Erebus Floating Wind Demon, specifically 0.995.

Awel y Môr Offshore Wind Farm	0	181	117	0.00	6.01	1.40	0.2007	0.~~3670~~367[b]	0.2471	0.00 to 0.00	0.40 to 5.32	0.~~16~~17 to 2.~~20~~31	0.00	2.21	0.~~35~~3	0.00 to 0.00	2.60 t	0.~~51~~54 to 2.~~54~~68	3.14 to 10.2
Burbo Bank Extension Offshore Wind Farm	15	358	13	0.00	6.87	0.00	0.2007	0.~~3670~~367[d]	0.2471	0.02 to 0.~~22~~24	0.79 to 10.51	0.02 to 0.~~24~~25	0.00	.52	.00	02 to 0.~~22~~24	.31 to 13.03	0.~~24~~25	35 to 13.52
Erebus Floating Wind Demo	59	124	195	0.34	1.86	0.34	0.2007	0.~~9950~~995[b]	0.2471	0.07 to 0.~~89~~95	0.74 to 9.85	0.~~27~~29 to 3.~~65~~85	0.07	1.85	0.~~08~~09	0.~~13~~14 to ~~0.95~~1.02	2.59 to 11.	0.~~36~~38 to 3.~~73~~93	3.11 to 16.66

[illegible]	[illegible]			[illegible]			[illegible]		[illegible]			[illegible]						
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				
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TwinHub (Wave Hub Floating Wind Farm)	0	135	89	0.00	14.43	0.00	0.2007	0.~~9950~~995[e]	0.2471	0.00 to 0.00	0.80 to 10.73	0.13 to 1.~~67~~76	0.00	14.~~39~~36	0.00	0.00 to 0.00	15.~~20~~16 to 25.~~12~~09	0.13 to 1.~~67~~76	15.30 to 26.85
Ormonde Wind Farm	2	110	3	0.00	3.71	0.00	0.2007	0.~~3141~~258[c]	0.2471	0.00 to 0.~~00~~03	0.~~21~~17 to 2.~~76~~27	0.~~00~~01 to 0.~~00~~07	0.00	~~1.17~~0.96	0.00	0.00 to 0.~~00~~03	1.~~37~~13 to 3.~~93~~23	0.~~00~~01 to 0.~~00~~07	1.14 to 3.33
Mona Offshore Wind Project	17	139	34	0.23	2.61	0.28	0.2007	0.~~1760~~176[b]	0.2471	0.02 to 0.~~25~~27	0.15 to 1.95	0.05 to 0.~~63~~67	0.05	0.46	0.07	0.~~06~~07 to 0.~~29~~31	0.61 to 2.41	0.12 to 0.~~70~~74	0.80 to 3.47

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Morecambe Offshore Windfarm Generation Assets	0	413	96	0.00	0.04	0.00	0.2007	0.~~3141~~258[b]	0.2471	0.00 to 0.00	0.~~78~~64 to ~~10.38~~8.53	0.~~13~~14 to 1.~~79~~89	0.00
Morgan Offshore Wind Project Generation Assets	31	115	112	0.12	0.93	0.14	0.2007	0.~~2580~~258[b]	0.2471	0.04 to 0.~~47~~50	0.18 to 2.38	0.~~16~~17 to 2.~~10~~21	0.~~02~~03
Walney (3 and 4) Extension Offshore Wind Farm	14	83	151	0.51	9.00	9.15	0.2007	0.~~3141~~258[c]	0.2471	0.02 to 0.~~21~~23	0.~~16~~13 to ~~2.08~~1.71	0.~~21~~22 to 2.~~83~~98	0.~~10~~11
West of Duddon Sands Offshore Wind Farm	7	238	10	0.14	1.08	0.18	0.2007	0.~~3141~~258[c]	0.2471	0.~~00~~01 to 0.~~00~~10	0.37 to 4.91	0.02 to 0.21	0.03

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																	to 5.~~98~~19	to 0.~~00~~25 ~~0.00~~	to 5.~~98~~58 ~~0.00~~
West of Orkney Windfarm	35	529	682	1.16	18.67	7.14	0.2007	No connectivity	0.2471	0.04 to 0.~~52~~56	~~N/A~~-	~~0.96~~1.01 to ~~12.79~~13.48	0.~~23~~25	~~N/A~~-	~~76~~86	~~27~~29 to 0.~~76~~81	~~N/A~~-	~~14.33~~15.34	10 to 16.15
White Cross Offshore Windfarm	83	132	44	0.00	2.44	0.93	0.2007	0.~~5208~~5208[b]	0.2471	0.~~09~~10 to 1.~~25~~34	0.41 to 5.50	0.~~06~~07 to 0.~~83~~88	0.00	1.27	0.~~23~~24	0.~~09~~10 to 1.~~25~~34	1.68 to 6.77	0.~~29~~31 to 1.~~06~~12	2.09 to 9.23
[illegible]																			
Burbo Bank	2	3	3	0.03	0.20	0.03	0.2007	0.367[d]	0.2471	0.00 to 0.03	0.01 to 0.10	0.00 to 0.06	0.01	0.07	0.01	0.01 to 0.04	0.08 to 0.17	0.01 to 0.07	0.10 to 0.27
Gwynt y Môr Offshore Wind Farm	8	15	12	0.56	4.03	0.69	0.2007	0.367[d]	0.2471	0.01 to 0.12	0.03 to 0.44	0.02 to 0.23	0.12	1.48	0.18	0.13 to	1.51	0.20 to 0.41	1.84 to

[illegible]	[illegible]									[illegible]			[illegible]						
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]						
																0.24	to 1.92		2.57
Robin Rigg	2	6	4	0.05	0.39	0.07	0.2007	0.258c	0.2471	0.00 to 0.04	0.01 to 0.13	0.01 to 0.08	0.01	0.10	0.02	0.01 to 0.05	0.11 to 0.23	0.02 to 0.10	0.15 to 0.37
Rhyl Flats Offshore Wind Farm	2	4	3	0.22	0.57	0.10	0.2007	0.367d	0.2471	0.00 to 0.04	0.01 to 0.13	0.01 to 0.07	0.05	0.21	0.03	0.05 to 0.09	0.22 to 0.34	0.03 to 0.09	0.30 to 0.52
Walney 1 and 2	9	20	15	0.14	1.06	0.18	0.2007	0.258c	0.2471	0.01 to 0.14	0.03 to 0.41	0.02 to 0.30	0.03	0.27	0.05	0.04 to 0.17	0.30 to 0.68	0.07 to 0.35	0.41 to 1.20
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~~1.5.3.64~~1.5.3.68 As the predicted impact on northern gannet from Grasholm SPA is predicted to be >1% increase in baseline mortality, the impact is further investigated by a PVA (see section 1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

~~1.5.3.65 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in northern gannet baseline mortality from Saltee Islands SPA, an in-combination assessment is presented within Table 1-55 (60-80% displacement and 1-10% mortality and species-group avoidance rate).~~

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[illegible]	[illegible]			[illegible]			[illegible]			[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~Awel y Môr Offshore Wind Farm~~	~~0.0015~~	~~0.0210~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.02 to 0.30~~	~~0.00 to 0.01~~	~~0.00~~	~~0.13~~	~~0.00~~	~~0.00 to 0.00~~	~~0.15 to 0.43~~	~~0.00 to 0.02~~
~~Burbo Bank Extension Offshore Wind Farm~~	~~0.0015~~	~~0.0210~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.05 to 0.60~~	~~0.00 to 0.00~~	~~0.00~~	~~0.14~~	~~0.00~~	~~0.00 to 0.00~~	~~0.19 to 0.75~~	~~0.00 to 0.00~~
~~Erebus Floating Wind Demo~~	~~0.0015~~	~~0.0030~~	~~0.0015~~	~~0.00 to 0.01~~	~~0.00 to 0.03~~	~~0.00 to 0.02~~	~~0.00~~	~~0.01~~	~~0.00~~	~~0.00 to 0.01~~	~~0.01 to 0.04~~	~~0.00 to 0.02~~
~~TwinHub (Wave Hub Floating Wind Farm)~~	~~0.0015~~	~~0.0030~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.00 to 0.03~~	~~0.00 to 0.01~~	~~0.00~~	~~0.04~~	~~0.00~~	~~0.00 to 0.00~~	~~0.05 to 0.08~~	~~0.00 to 0.01~~
~~Ormonde Wind Farm~~	~~0.0015~~	~~0.0377~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.02 to 0.33~~	~~0.00 to 0.00~~	~~0.00~~	~~0.14~~	~~0.00~~	~~0.00 to 0.00~~	~~0.16 to 0.47~~	~~0.00 to 0.00~~
~~Mona Offshore Wind Project~~	~~0.0015~~	~~0.0280~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.02 to 0.31~~	~~0.00 to 0.00~~	~~0.00~~	~~0.07~~	~~0.00~~	~~0.00 to 0.00~~	~~0.10 to 0.38~~	~~0.00 to 0.00~~
~~Morecambe Offshore Windfarm Generation Assets~~	~~0.0015~~	~~0.0377~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.09 to 1.25~~	~~0.00 to 0.01~~	~~0.00~~	~~0.00~~	~~0.00~~	~~0.00 to 0.00~~	~~0.10 to 1.25~~	~~0.00 to 0.01~~
~~Morgan Offshore Wind Project Generation Assets~~	~~0.0015~~	~~0.0320~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.02 to 0.30~~	~~0.00 to 0.01~~	~~0.00~~	~~0.03~~	~~0.00~~	~~0.00 to 0.00~~	~~0.05 to 0.33~~	~~0.00 to 0.01~~
~~Walney (3 and 4) Extension Offshore Wind Farm~~	~~0.0015~~	~~0.0377~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.02 to 0.25~~	~~0.00 to 0.02~~	~~0.00~~	~~0.34~~	~~0.01~~	~~0.00 to 0.00~~	~~0.36 to 0.59~~	~~0.02 to 0.03~~
~~West of Duddon Sands Offshore Wind Farm~~	~~0.0015~~	~~0.0377~~	~~0.0015~~	~~0.00 to 0.00~~	~~0.05 to 0.72~~	~~0.00 to 0.00~~	~~0.00~~	~~0.00~~	~~0.00~~	~~0.00 to 0.00~~	~~0.05 to 0.72~~	~~0.00 to 0.00~~
~~West of Orkney Windfarm~~	~~0.0015~~	~~No connectivity~~	~~0.0015~~	~~0.00 to 0.00~~	~~N/A~~	~~0.01 to 0.08~~	~~0.00~~	~~N/A~~	~~0.01~~	~~0.00 to 0.01~~	~~N/A~~	~~0.02 to 0.09~~
~~White Cross Offshore Windfarm~~	~~0.0015~~	~~0.0141~~	~~0.0015~~	~~0.00 to 0.01~~	~~0.01 to 0.15~~	~~0.00 to 0.01~~	~~0.00~~	~~0.03~~	~~0.00~~	~~0.00 to 0.01~~	~~0.05 to 0.18~~	~~0.00 to 0.01~~
[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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~~1.5.3.66 As the predicted impact on northern gannet from Saltee Islands SPA <1% increase in baseline mortality, which is likely to be undetectable against natural variation the impact is not considered to hinder the conservation objectives of the site, and therefore, it is concluded beyond reasonable scientific doubt that there would be no AEoSI from the Mona Offshore Wind Project in-combination with other plans and projects..~~

~~Skelligs SPA~~

~~1.5.3.67~~1.5.3.69 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in northern gannet ~~-~~baseline mortality from ~~Skelligs~~Saltee Islands SPA, an in-combination assessment is presented within ~~Table 1-56~~Table 1-56 (60-80% displacement and 1-10% mortality and species-group avoidance rate).

[illegible]

a – the plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables, or during the breeding season from the stable-age structures. For northern gannet, the proportions are 55.25% of birds are adults in the breeding period, 59.16% of birds are adults in the pre-breeding period and 58.25% of birds are adults in the post-breeding season.

b – the apportioning value during the breeding season was taken from project specific documentation

c – the apportioning value during the breeding season has used that of Morgan Offshore Wind Project Generation Assets, specifically 0.032.

d – the apportioning value during the breeding season has used that of Awel y Môr Offshore Wind Farm, specifically 0.021.

e – the apportioning value during the breeding seas has used that of Erebus Floating Wind Demon, specifically 0.003.

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Awel y Môr Offshore Wind Farm	0	181	117	0.~~048~~00	6.01	1.40	0.~~0437~~0015	0.~~040~~021[b]	0.0015	0.00 to 0.00	0.~~05~~02 t	0.~~03~~00
Burbo Bank Extension Offshore Wind Farm	~~0.048~~15	~~0.0437~~358	~~0.040~~13	0.00	6.87	0.00	0.0015	0.021[d]	0.0015	0.00 to 0.~~05~~00	0.~~09~~05 t	0.00 to
Erebus Floating Wind Demo	~~0.048~~59	~~0.002~~124	~~0.040~~195	0.34	1.86	0.34	0.0015	0.003[b]	0.0015	0.~~02~~00 to 0.~~21~~01	0.00 to (	0.~~04~~00 0.~~59~~02
TwinHub (Wave Hub Floating Wind Farm)	0.~~048~~	~~0.002~~135	~~0.040~~89	~~0.00 to~~ 0.00	~~0.00 to 0.02~~14.43	0.~~02 to 0.27~~00	0.~~00~~0015	0.003[e]	0.0015	0.00 to 0.00	0.00 to (	

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Ormonde Wind Farm	~~0.048~~2	~~0.0437~~110	~~0.040~~3	~~0.00 to~~ 0.00	~~0.03 to 0.38~~3.71	~~0.00 to~~ 0.00	0.~~00~~0015	0.~~16~~032[c]	0.~~00~~0015	0.00 to 0.00	0.~~19~~02 t		
Mona Offshore Wind Project	~~0.048~~17	~~0.0437~~139	~~0.040~~34	0.~~00 to~~ ~~0.06~~23	~~0.04 to 0.48~~2.61	0.~~01 to~~ ~~0.10~~28	0.~~01~~0015	0.~~11~~028[b]	0.~~01~~0015	0.00 to 0.00	0.02 to (	0.~~15~~00	0 7
Morecambe Offshore Windfarm Generation Assets	0~~.048~~	~~0.0437~~413	~~0.040~~96	~~0.00 to~~ 0.00	0.04	0.00	0.0015	0.0377[b]	0.0015	0.00 to 0.00	0.~~11~~09 t	0.~~02~~00	0
Morgan Offshore Wind Project Generation Assets	~~0.048~~31	~~0.0437~~115	~~0.040~~112	0.12	0.93	0.14	0.0015	0.032[c]	0.0015	0.00 to 0.00	0.02 to (	0.~~01~~00	0.03
Walney (3 and 4) Extension Offshore Wind Farm	~~0.048~~14	~~0.0437~~83	~~0.040~~151	0.~~00 to~~ ~~0.05~~51	9.00	9.15	0.0015	0.032[c]	0.0015	0.00 to 0.00	0.0	~~0.03 t~~	

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											2 to 0.~~29~~21			
West of Duddon Sands Offshore Wind Farm	~~0.048~~7	~~0.0437~~238	~~0.040~~10	0.~~00 to 0.00~~14	~~0.06 to 0.83~~1.08	0.~~00 to 0.00~~18	0.~~00~~0015	0.~~00~~032 ᶜ	0.~~00~~0015	0.00 to 0.00	0.~~06~~05 t			
West of Orkney Windfarm	~~0.048~~35	529	682	1.16	18.67	7.14	0.0015	No connectivity	0.~~040~~0015	0.00 to 0.00	-	0.01 to		~~0.15t~~
White Cross Offshore Windfarm	~~0.048~~83	~~0.002~~132	~~0.040~~44	0.~~02 to 0.30~~00	~~0.00 to 0.02~~2.44	0.93	0.0015	0.0141ᵇ	0.0015	0.00 to 0.01	0.01 to (			
[illegible]														
Burbo Bank	2	3	3	0.03	0.20	0.03	0.0015	0.021ᵈ	0.0015	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.00	.00

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Gwynt y Môr Offshore Wind Farm	8	15	12	0.56	4.03	0.69	0.0015	0.021[d]	0.0015	0.00 to 0.00	0.00 to 0.03	0.00 to 0.00	0.00	0.08
Robin Rigg	2	6	4	0.05	0.39	0.07	0.0015	0.032[c]	0.0015	0.00 to 0.00	0.00 to 0.02	0.00 to 0.00	0.00	0.01
Rhyl Flats Offshore Wind Farm	2	4	3	0.22	0.57	0.10	0.0015	0.021[d]	0.0015	0.00 to 0.00	0.00 to 0.01	0.00 to 0.00	0.00	0.01
Walney 1 and 2	9	20	15	0.14	1.06	0.18	0.0015	0.032[c]	0.0015	0.00 to 0.00	0.00 to 0.05	0.00 to 0.00	0.00	0.03
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[illegible]										[illegible]

~~1.5.3.68~~1.5.3.70 As the predicted impact on northern gannet from ~~Skelligs~~Grasholm SPA is predicted to be >1% increase in baseline mortality, the impact is further investigated by a PVA (see section 1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

[illegible]

~~1.5.3.69~~1.5.3.71 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in razorbill ~~-~~baseline mortality from Cape Wrath SPA, an in-combination assessment is presented within Table 1-57 (30-70% displacement and 1-10% mortality and 70% displacement and 2% mortality).

[illegible] 1-[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables. For razorbill, the proportions are 52.22% of birds are adults in the pre- and post-breeding period, 53.48% of birds are adults in the non-breeding period.

[illegible]	[illegible]			[illegible]			[illegible]				[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	175	34	79	0.0129	0.0129	0.0093	0.01 to 0.~~17~~16	0.00 to 0.03	0.00 to 0.~~06~~05	0.~~09~~01 to 0.24	0.~~04~~03	0.01	0.00	0.05
~~Erebus Floating Wind Demo~~Burbo Bank Extension	0	0	15	0.0129	0.0129	0.0093	0.~~02~~00 to 0.~~46~~00	0.00 to 0.~~88~~00	0.~~03~~00 to 0.~~40~~01	0.~~23~~00 to 0.01	0.~~05~~00	0.~~32~~01	0.00	0.01
Erebus Floating Wind Demo	468	892	561	0.0129	0.0129	0.0093	0.02 to 0.42	0.00 to 0.81	0.03 to 0.37	0.05 to 1.59	0.08	0.02	0.12	0.22
TwinHub (Wave Hub Floating Wind Farm)	0	0	28	0.0129	0.0129	0.0093	0.00 to 0.00	0.00 to 0.00	0.00 to 0.02	0.00 to 0.02	0.00	0.00	0.00	0.00
Walney (3 and 4) Extension Offshore Wind Farm	0	456	1609	0.0129	0.0129	0.0093	0.00 to 0.00	0.00 to 0.~~45~~41	0.01 to 1.~~14~~05	0.~~00~~01 to 1.46	0.~~02~~00	0.~~16~~01	0.06	0.07

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West of Duddon Sands Offshore Wind Farm	0	0	106	0.0129	0.0129	0.0093	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~08~~07	0.00 to 0.07	0.00	0.00	0.00	0.00
West of Orkney Windfarm	51	75	8	0.0129	0.0129	0.0093	0.00 to 0.05	0.00 to 0.07	0.00 to 0.01	0.~~02~~01 to 0.12	0.~~02~~01	0.01	0.01	0.03
White Cross Offshore Windfarm	180	21	189	0.0129	0.0129	0.0093	0.01 to 0.~~18~~16	0.00 to 0.02	0.00 to 0.~~13~~12 ~~0.09~~	0.01 to 0.30	0.~~01~~03	0.00	0.00	0.04
Morecambe Offshore Windfarm Generation Assets	203	352	313	0.0129	0.0129	0.0093	0.01 to 0.~~20~~18	0.00 to 0.~~35~~32	0.01 to 0.~~22~~20	0.02 to 0.70	0.04	0.02	0.05	0.10 ~~0.06~~ ~~0.12~~
Morgan Offshore Wind Project Generation Assets	87	54	122	0.0129	0.0129	0.0093	0.00 to 0.~~09~~08	0.00 to 0.05	0.00 to 0.~~09~~08	0.~~04~~01 to 0.21 ~~0.03~~	0.02	0.01	0.01	0.03
Mona Offshore Wind Project	1,005	48	221	0.0129	0.0129	0.0093	0.04 to 0.~~99~~91	0.00 to 0.~~05~~04	0.00 to 0.~~16~~14	0.~~49~~04 to 1.09	0.~~02~~18	0.~~02~~01	0.01	0.20
[illegible]														
Burbo Bank	5	3	5	0.0129	0.0129	0.0093	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.01	0.00	0.00	0.00	0.00

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Gwynt y Môr Offshore Wind Farm	20	11	17	0.0129	0.0129	0.0093	0.00 to 0.02	0.00 to 0.01	0.00 to 0.01	0.00 to 0.04	0.00	0.00	0.00	0.01
Ormonde Offshore Wind Farm	5	3	4	0.0129	0.0129	0.0093	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.01	0.00	0.02	0.00	0.02
Robin Rigg	8	6	7	0.0129	0.0129	0.0093	0.00 to 0.01	0.00 to 0.01	0.00 to 0.00	0.00 to 0.02	0.00	0.01	0.00	0.01
Rhyl Flats Offshore Wind Farm	6	4	5	0.0129	0.0129	0.0093	0.00 to 0.01	0.00 to 0.00	0.00 to 0.00	0.00 to 0.01	0.00	0.00	0.00	0.00
Walney 1 and 2	21	13	18	0.0129	0.0129	0.0093	0.00 to 0.02	0.00 to 0.01	0.00 to 0.01	0.00 to 0.04	0.00	0.00	0.00	0.01
[illegible]							[illegible]	[illegible]	[illegible]	~~1.0~~ 0.1 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~[illegible]~~				~~[illegible]~~	~~[illegible]~~		~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~				
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										~~[illegible]~~ [illegible]				

~~1.5.3.70~~1.5.3.72 As the predicted impact on razorbill from Cape Wrath SPA is >1% increase in baseline mortality (when considering 70% displacement and 10% mortality) the impact is further investigated by a PVA (see section ~~1.6.6~~1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.71~~1.5.3.73 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in razorbill baseline mortality from Handa SPA, an in-combination assessment is presented within Table 1-58 (30-70% displacement and 1-10% mortality and 70% displacement and 2% mortality).

[illegible] 1-[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables. For razorbill, the proportions are 52.22% of birds are adults in the pre- and post-breeding period, 53.48% of birds are adults in the non-breeding period.

[illegible]	[illegible]			[illegible]			[illegible] 1-10% [illegible]				[illegible] 70% [illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	175	34	79	0.0319	0.0319	0.0231	0.02 to 0.~~43~~39	0.~~01~~00 to 0.08	0.~~00~~01 to 0.~~14~~13	0.~~09~~03 to 0.60	0.~~04~~08	0.03	0.01	0.12
~~Erebus Floating Wind Demo~~Burbo Bank Extension	0	0	15	0.0319	0.0319	0.0231	0.~~05~~00 to ~~1.14~~0.00	0.~~01~~00 to ~~2.18~~0.00	0.~~07~~00 to 0.~~99~~02	0.~~23~~00 to 0.02	0.~~05~~00	0.~~32~~01	0.00	0.01
Erebus Floating Wind Demo	468	892	561	0.0319	0.0319	0.0231	0.04 to 1.04	0.09 to 1.99	0.04 to 0.91	0.17 to 3.94	0.21	0.05	0.29	0.54
TwinHub (Wave Hub Floating Wind Farm)	0	0	28	0.0319	0.0319	0.0231	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~05~~04	0.00 to 0.04	0.00	0.00	0.00	0.00
Walney (3 and 4) Extension Offshore Wind Farm	0	456	1609	0.0319	0.0319	0.0231	0.00 to 0.00	0.~~00~~04 to 1.~~12~~02	0.~~03~~11 to 2.~~83~~60	0.~~00~~16 to 3.62	0.00	0.02	0.~~16~~15	0.17
West of Duddon Sands Offshore Wind Farm	0	0	106	0.0319	0.0319	0.0231	0.00 to 0.00	0.00 to 0.00	0.~~00~~01 to 0.~~19~~17	0.~~00~~01 to 0.17	0.00	0.00	0.00	0.00
West of Orkney Windfarm	51	75	8	0.0319	0.0319	0.0231	0.00 to 0.11	0.01 to 0.~~12~~17	0.00 to 0.~~18~~01	0.01 to 0.~~01~~29	0.02	0.02	0.~~03~~02	0.06
White Cross Offshore Windfarm	180	21	189	0.0319	0.0319	0.0231	0.02 to 0.~~44~~40	0.00 to 0.05	0.~~00~~01 to 0.~~33~~31	0.~~09~~03 to 0.76	0.08	0.01	0.01	0.10
Morecambe Offshore Windfarm Generation Assets	203	352	313	0.0319	0.0319	0.0231	0.02 to 0.~~50~~45 ~~0.01 to 0.86~~	0.03 to 0.~~55~~79	0.~~10~~02 to 0.51	0.~~06~~07 to 1.75	0.~~12~~09	0.05	0.11	0.26
Morgan Offshore Wind Project Generation Assets	87	54	122	0.0319	0.0319	0.0231	0.01 to 0.~~21~~19	0.01 to 0.~~13~~12	0.~~00~~01 to 0.~~22~~20	0.02 to 0.51	0.04	0.03	0.02	0.08
Mona Offshore Wind Project	1,005	48	221	0.0319	0.0319	0.0231	0.~~11~~10 to 2.~~46~~24	0.00 to 0.11	0.02 to 0.36	0.~~00~~12 to ~~0.12~~2.71	0.~~00 to 0.39~~45 ~~0.49~~	0.02	0.02	0.48
[illegible]														
Burbo Bank	5	3	5	0.0319	0.0319	0.0231	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.03	0.00	0.00	0.00	0.00
Gwynt y Môr Offshore Wind Farm	20	11	17	0.0319	0.0319	0.0231	0.00 to 0.05	0.00 to 0.03	0.00 to 0.03	0.00 to 0.10	0.01	0.00	0.00	0.02
Ormonde Offshore Wind Farm	5	3	4	0.0319	0.0319	0.0231	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.03	0.00	0.04	0.00	0.04
Robin Rigg	8	6	7	0.0319	0.0319	0.0231	0.00 to 0.02	0.00 to 0.01	0.00 to 0.01	0.00 to 0.04	0.00	0.01	0.00	0.02
Rhyl Flats Offshore Wind Farm	6	4	5	0.0319	0.0319	0.0231	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.03	0.00	0.00	0.00	0.00
Walney 1 and 2	21	13	18	0.0319	0.0319	0.0231	0.00 to 0.05	0.00 to 0.03	0.00 to 0.03	0.00 to 0.10	0.01	0.00	0.00	0.02
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~[illegible]~~			~~[illegible]~~	~~[illegible]~~			~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~				
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~~1.5.3.72~~1.5.3.74 As the predicted impact on razorbill from Cape Wrath SPA is >1% increase in baseline mortality (when considering 70% displacement and 10% mortality) the impact is further investigated by a PVA (see section 1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.73~~1.5.3.75 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in razorbill baseline mortality from Shiant Isles SPA, an in-combination assessment is presented within Table 1-59 (30-70% displacement and 1-10% mortality and 70% displacement and 2% mortality).

[illegible] 1-[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables. For razorbill, the proportions are 52.22% of birds are adults in the pre- and post-breeding period, 53.48% of birds are adults in the non-breeding period.

[illegible]	[illegible]			[illegible]			[illegible]					[illegible]		
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	175	34	79	0.0263	0.0263	0.019	0.~~02~~01 to 0.~~35~~32	0.~~01~~00 to 0.~~07~~06	0.00 to 0.~~11~~10	0.~~07~~02 to 0.49	0.06	0.03	0.01	0.10
~~Erebus Floating Wind Demo~~Burbo Bank Extension	0	0	15	0.0263	0.0263	0.019	0.~~04~~00 to 0.~~94~~00	0.~~01~~00 to ~~1.80~~0.00	0.~~06~~00 to 0.~~81~~02	0.~~19~~00 to 0.02	0.~~04~~00	0.~~26~~01	0.00	0.01
Erebus Floating Wind Demo	468	892	561	0.0263	0.0263	0.019	0.04 to 0.86	0.07 to 1.64	0.05 to 0.75	0.16 to 3.25	0.17	0.04	0.24	0.45
TwinHub (Wave Hub Floating Wind Farm)	0	0	28	0.0263	0.0263	0.019	0.00 to 0.00	0.00 to 0.00	0.00 to 0.04	0.00 to 0.04	0.00	0.00	0.00	0.00
Walney (3 and 4) Extension Offshore Wind Farm	0	456	1609	0.0263	0.0263	0.019	0.00 to 0.00	0.~~00~~04 to 0.~~92~~84	0.03 to 2.~~33~~14	0.~~00~~06 to	0.~~02~~00	0.~~13~~	0.12	0.14

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										2.98		01		
West of Duddon Sands Offshore Wind Farm	0	0	106	0.0263	0.0263	0.019	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~15~~14	0.00 to 0.14	0.00	0.00	0.00	0.00
West of Orkney Windfarm	51	75	8	0.0263	0.0263	0.019	0.00 to 0.~~10~~09	0.~~00~~01 to 0.~~15~~14	0.00 to 0.01	0.01 to 0.24	0.02	0.01	0.02	0.05
White Cross Offshore Windfarm	180	21	189	0.0263	0.0263	0.019	0.~~02~~01 to 0.~~36~~33	0.00 to 0.04	0.00 to 0.~~27~~25	0.02 to 0.62	0.07	0.01	0.01	0.08
Morecambe Offshore Windfarm Generation Assets	203	352	313	0.0263	0.0263	0.019	0.02 to 0.~~41~~37	0.~~01~~03 to 0.~~71~~65	0.02 to 0.~~45~~42	0.~~08~~06 to 1.44	0.~~05~~07	0.~~10~~04	0.09	0.21
Morgan Offshore Wind Project Generation Assets	87	54	122	0.0263	0.0263	0.019	0.01 to 0.~~17~~16	0.00 to 0.10	0.00 to 0.16	0.01 to 0.~~11~~42 ~~0.00 to 0.18~~	0.03 ~~0.03~~	0.02	0.01	0.07
Mona Offshore Wind Project	1,005	48	221	0.0263	0.0263	0.019	0.08 to 1.85	0.00 to 0.09	0.00 to 0.29	0.09	0. ~~0.~~ ~~0.~~	0.	0.	0.

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										to 2.~~02~~23	~~0.0 to 0.10~~37 ~~0.0 to 0.32~~ 4~~0~~	02	01	40
[illegible]														
Burbo Bank	5	3	5	0.0263	0.0263	0.019	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.02	0.00	0.00	0.00	0.00
Gwynt y Môr Offshore Wind Farm	20	11	17	0.0263	0.0263	0.019	0.00 to 0.04	0.00 to 0.02	0.00 to 0.02	0.00 to 0.08	0.01	0.00	0.00	0.01
Ormonde Offshore Wind Farm	5	3	4	0.0263	0.0263	0.019	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.02	0.00	0.03	0.00	0.04
Robin Rigg	8	6	7	0.0263	0.0263	0.019	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.03	0.00	0.01	0.00	0.02
Rhyl Flats Offshore Wind Farm	6	4	5	0.0263	0.0263	0.019	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.03	0.00	0.00	0.00	0.00

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Walney 1 and 2	21	13	18	0.0263	0.0263	0.019	0.00 to 0.04	0.00 to 0.02	0.00 to 0.02	0.00 to 0.09	0.01	0.00	0.00	0.01
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~[illegible]~~				~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~					
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~~1.5.3.74~~1.5.3.76 As the predicted impact on razorbill from Shiant Isles SPA is >1% increase in baseline mortality (when considering 70% displacement and 10% mortality) the impact is further investigated by a PVA (see section 1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.75~~1.5.3.77 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in razorbill baseline mortality from Flanna Isles SPA, an in-combination assessment is presented within Table 1-60 (30-70% displacement and 1-10% mortality and 70% displacement and 2% mortality).

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables. For razorbill, the proportions are 52.22% of birds are adults in the pre- and post-breeding period, 53.48% of birds are adults in the non-breeding period.

[illegible]	[illegible]			[illegible]			[illegible]					[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	175	34	79	0.0065	0.0065	0.0047	0.00 to 0.~~09~~08	0.00 to 0.02	0.00 to 0.03		0.~~02~~01 to 0.12	0.02	0.01	0.00	0.02
~~Erebus Floating Wind Demo~~Burbo Bank Extension	0	0	15	0.0065	0.0065	0.0047	0.~~01~~00 to 0.~~23~~00	0.00 to 0.~~44~~00	0.~~01~~00 to 0.~~20~~01	~~0.05~~	0.00 to 0.01	0.~~06~~00	0.00	0.00	0.00
Erebus Floating Wind Demo	468	892	561	0.0065	0.0065	0.0047	0.01 to 0.21	0.00 to 0.41	0.01 to 0.18		0.02 to 0.80	0.04	0.01	0.06	0.11
TwinHub (Wave Hub Floating Wind Farm)	0	0	28	0.0065	0.0065	0.0047	0.00 to 0.00	0.00 to 0.00	0.00 to 0.01		0.00 to 0.01	0.00	0.00	0.00	0.00
Walney (3 and 4) Extension Offshore Wind Farm	0	456	1609	0.0065	0.0065	0.0047	0.00 to 0.00	0.00 to 0.~~23~~21	0.01 to 0.~~58~~53		0.~~00~~01 to 0.74	0.00	0.00	0.03	0.03
West of Duddon Sands Offshore Wind Farm	0	0	106	0.0065	0.0065	0.0047	0.00 to 0.00	0.00 to 0.00	0.00 to 0.0~~4~~03		0.00 to 0.03	0.00	0.00	0.00	0.00

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West of Orkney Windfarm	51	75	8	0.0065	0.0065	0.0047	0.00 to 0.02	0.00 to 0.03	0.00 to 0.~~04~~00		0.00 to 0.~~00~~06	0.~~01~~00	0.00	0.00	0.01		
White Cross Offshore Windfarm	180	21	189	0.0065	0.0065	0.0047	0.00 to 0.~~09~~08	0.00 to 0.01	0.00 to 0.~~07~~06		0.00 to 0.15	0.02	0.00	0.00	0.02		
Morecambe Offshore Windfarm Generation Assets	203	352	313	0.0065	0.0065	0.0047	0.00 to 0.09	0.00 to 0.16	0.00 to 0.10	~~0.00 to 0.18~~	0.01 to 0.~~11~~36	0.02	0.01	0.~~03~~02	0.05		
Morgan Offshore Wind Project Generation Assets	87	54	122	0.0065	0.0065	0.0047	0.00 to 0.04	0.00 to 0.~~03~~02	0.00 to 0.04		0.00 to 0.10	0.01	0.01	0.00	0.02		
Mona Offshore Wind Project	1,005	48	221	0.0065	0.0065	0.0047	0.02 to 0.~~50~~46	0.00 to 0.02	0.00 to 0.~~08~~07		0.02 to 0.55	0.09	0.00	0.00	0.10	~~0.00~~	~~0.00~~
[illegible]																	
Burbo Bank	5	3	5	0.0065	0.0065	0.0047	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00		0.00 to 0.01	0.00	0.00	0.00	0.00		
Gwynt y Môr Offshore Wind Farm	20	11	17	0.0065	0.0065	0.0047	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01		0.00 to 0.02	0.00	0.00	0.00	0.00		
Ormonde Offshore Wind Farm	5	3	4	0.0065	0.0065	0.0047	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00		0.00 to 0.01	0.00	0.01	0.00	0.01		

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Robin Rigg	8	6	7	0.0065	0.0065	0.0047	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.01	0.00	0.00	0.00	0.00
Rhyl Flats Offshore Wind Farm	6	4	5	0.0065	0.0065	0.0047	0.00 to 0.00	0.00 to 0.00	0.00 to 0.00	0.00 to 0.01	0.00	0.00	0.00	0.00
Walney 1 and 2	21	13	18	0.0065	0.0065	0.0047	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.02	0.00	0.00	0.00	0.00
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~[illegible]~~				~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~		~~[illegible]~~				
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~~1.5.3.76~~1.5.3.78 As the predicted impact on razorbill from Flannan Isles SPA is >1% increase in baseline mortality (when considering 70% displacement and 10% mortality), the impact is further investigated by a PVA (see section ~~1.6.6~~1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.77~~1.5.3.79 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in razorbill baseline mortality from Mingulay and Berneray SPA, an in-combination assessment is presented within Table 1-61 (30-70% displacement and 1-10% mortality and 70% displacement and 2% mortality).

[illegible] 1-61 [illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables. For razorbill, the proportions are 52.22% of birds are adults in the pre- and post-breeding period, 53.48% of birds are adults in the non-breeding period.

[illegible]	[illegible]			[illegible]			[illegible]				[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	175	34	79	0.0625	0.0625	0.0451	0.~~04~~03 to 0.~~84~~77	0.~~02~~01 to 0.~~17~~15	0.~~01~~00 to 0.~~27~~25	0.05 to 1.17	0.~~07~~15	0.06	0.02	0.24
~~Erebus Floating Wind Demo~~Burbo Bank Extension	0	0	15	0.0625	0.0625	0.0451	0.~~10~~00 to ~~2.24~~0.00	0.~~02~~01 to ~~4.27~~0.00	0.~~13~~00 to ~~1.93~~0.05	0.~~45~~01 to 0.05	0.~~10~~00	0.~~62~~03	0.00	0.03
Erebus Floating Wind Demo	468	892	561	0.0625	0.0625	0.0451	0.09 to 2.05	0.02 to 3.90	0.12 to 1.77	0.23 to 7.72	0.41	0.09	0.57	1.06
TwinHub (Wave Hub Floating Wind Farm)	0	0	28	0.0625	0.0625	0.0451	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~10~~09	0.00 to 0.09	0.00	0.01	0.00	0.01
Walney (3 and 4) Extension Offshore Wind Farm	0	456	1609	0.0625	0.0625	0.0451	0.00 to 0.00	0.01 to 2.~~19~~00	0.06 to 5.08	0.07 to ~~5.53~~7.08	0.00	0.~~04~~03	0.29	0.32
West of Duddon Sands Offshore Wind Farm	0	0	106	0.0625	0.0625	0.0451	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~36~~33	0.00 to 0.33	0.00	0.00	0.00	0.00
West of Orkney Windfarm	51	75	8	0.0625	0.0625	0.0451	0.01 to 0.~~24~~22	0.01 to 0.~~36~~33	0.01 to 0.~~03~~02	0.~~05~~03 to 0.58	0.04	0.03	0.05	0.12
White Cross Offshore Windfarm	180	21	189	0.0625	0.0625	0.0451	0.03 to 0.79	0.00 to 0.09	0.00 to 0.60	0.04 to	0. ~~0.~~ ~~0.~~	0.02	0.	0.

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											~~0.86~~1.48	~~00to0.10~~16 ~~00to0.65~~ ~~17~~		01	19
Morecambe Offshore Windfarm Generation Assets	203	352	313	0.0625	0.0625	0.0451	0.04 to 0.~~97~~89	0.02 to 1.~~69~~54	0.05 to ~~1.08~~0.99	~~0.19~~	0.11 to 3.42	0.~~24~~18	0.10	0.22	0.50
Morgan Offshore Wind Project Generation Assets	87	54	122	0.0625	0.0625	0.0451	0.02 to 0.~~42~~38	0.01 to 0.~~26~~24	0.01 to 0.~~42~~39		0.04 to 1.00	0.08	0.~~06~~05	0.~~04~~03	0.16
Mona Offshore Wind Project	1,005	48	221	0.0625	0.0625	0.0451	0.~~21~~19 to 4.~~81~~40	0.01 to 0.~~23~~21	0.01 to 0.~~76~~70		0.~~96~~20 to 5.30	0.88	0.04	0.03	0.95
[illegible]															
Burbo Bank	5	3	5	0.0625	0.0625	0.0451	0.00 to 0.02	0.00 to 0.01	0.00 to 0.01		0.00 to 0.05	0.00	0.00	0.00	0.01
Gwynt y Môr Offshore Wind Farm	20	11	17	0.0625	0.0625	0.0451	0.00 to 0.09	0.00 to 0.05	0.00 to 0.05		0.01 to 0.19	0.02	0.01	0.01	0.03
Ormonde Offshore Wind Farm	5	3	4	0.0625	0.0625	0.0451	0.00 to 0.02	0.02 to 0.01	0.00 to 0.01		0.02 to 0.05	0.00	0.08	0.00	0.09
Robin Rigg	8	6	7	0.0625	0.0625	0.0451	0.00 to 0.03	0.01 to 0.03	0.00 to 0.02		0.01 to 0.08	0.01	0.03	0.	0.

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Rhyl Flats Offshore Wind Farm	6	4	5	0.0625	0.0625	0.0451	0.00 to 0.03	0.00 to 0.02	0.00 to 0.02	0.00 to 0.06	0.01	0.00	0.00	0.01
Walney 1 and 2	21	13	18	0.0625	0.0625	0.0451	0.00 to 0.09	0.00 to 0.06	0.00 to 0.06	0.01 to 0.20	0.02	0.01	0.01	0.03
[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~[illegible]~~				~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~					
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~~1.5.3.78~~1.5.3.80 As the predicted impact on razorbill from Mingulay and Berneray SPA is >1% increase in baseline mortality (when considering 70% displacement and 10% mortality), the impact is further investigated by a PVA (see section ~~1.6.6~~1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

[illegible]

~~1.5.3.79~~1.5.3.81 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in razorbill baseline mortality from Rathlin Island SPA, an in-combination assessment is presented within Table 1-62 (30-70% displacement and 1-10% mortality and 70% displacement and 2% mortality).

Table 1-[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment). All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables. For razorbill, the proportions are 52.22% of birds are adults in the pre- and post-breeding period, 53.48% of birds are adults in the non-breeding period.

[illegible]	[illegible]			[illegible]			[illegible]				[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	175	34	79	0.0952	0.0952	0.0687	0.05 to 1.~~28~~17	0.02 to 0.~~25~~23	0.01 to 0.~~41~~38	0.~~26~~08 to 1.78	0.~~11~~23	0.~~04~~10	0.03	0.36
~~Erebus Floating Wind Demo~~Burbo Bank Extension	0	0	15	0.0952	0.0952	0.0687	0.~~15~~00 to ~~3.41~~0.00	0.~~03~~01 to ~~6.50~~0.00	0.~~20~~00 to ~~2.94~~0.07	0.~~68~~01 to 0.07	0.~~15~~00	0.~~94~~04	0.00	0.04
Erebus Floating Wind Demo	468	892	561	0.0952	0.0952	0.0687	0.13 to 3.12	0.03 to 5.94	0.18 to 2.70	0.35 to 11.76	0.62	0.14	0.86	1.62
TwinHub (Wave Hub Floating Wind Farm)	0	0	28	0.0952	0.0952	0.0687	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~15~~13	0.00 to 0.13	0.00	0.01	0.00	0.01

Walney (3 and 4) Extension Offshore Wind Farm	0	456	1609	0.0952	0.0952	0.0687	0.00 to 0.00	0.01 to 3.~~33~~04	0.09 to 7.74	0.~~10~~11 to ~~8.43~~10.78	0.00	0.~~06~~05	0.~~48~~44	0.49
West of Duddon Sands Offshore Wind Farm	0	0	106	0.0952	0.0952	0.0687	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~56~~51	0.00 to 0.51	0.00	0.00	0.00	0.00
West of Orkney Windfarm	51	75	8	0.0952	0.0952	0.0687	0.~~02~~01 to 0.~~37~~34	0.01 to 0.~~55~~50	0.02 to 0.04	0.04 to 0.88	0.07	0.05	0.~~08~~07	0.19
White Cross Offshore Windfarm	180	21	189	0.0952	0.0952	0.0687	0.~~06~~05 to 1.~~31~~20	0.01 to 0.~~15~~14	0.00 to 0.~~99~~91	0.~~26~~06 to 2.25	0.24	0.03	0.02	0.29
Morecambe Offshore Windfarm Generation Assets	203	352	313	0.0952	0.0952	0.0687	0.06 to 1.~~48~~35	0.~~04~~03 to 2.~~57~~35	0.~~08~~07 to 1.~~64~~50	0.~~30~~16 to 5.20	0.~~17~~27	0.~~37~~15	0.34	0.77
Morgan Offshore Wind Project Generation Assets	87	54	122	0.0952	0.0952	0.0687	0.~~03~~02 to 0.~~63~~58	0.02 to 0.~~39~~36	0.01 to 0.~~64~~59	0.~~13~~05 to 1.52	0.~~09~~	0.~~06~~	0.05	0.25

[illegible]	[illegible]			[illegible]			[illegible]				[illegible]			
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											12	08		
Mona Offshore Wind Project	1,005	48	221	0.0952	0.0952	0.0687	0.~~31~~29 to ~~7.33~~6.70	0.01 to 0.~~35~~32	0.01 to 1.~~16~~06	0.31 to 8.07	1.~~47~~34	0.06	0.05	1.44
[illegible]														
Burbo Bank	5	3	5	0.0952	0.0952	0.0687	0.00 to 0.03	0.00 to 0.02	0.00 to 0.02	0.00 to 0.08	0.01	0.00	0.00	0.01
Gwynt y Môr Offshore Wind Farm	20	11	17	0.0952	0.0952	0.0687	0.01 to 0.14	0.00 to 0.08	0.00 to 0.08	0.01 to 0.29	0.03	0.01	0.01	0.05
Ormonde Offshore Wind Farm	5	3	4	0.0952	0.0952	0.0687	0.00 to 0.03	0.03 to 0.02	0.00 to 0.02	0.03 to 0.08	0.01	0.12	0.00	0.13
Robin Rigg	8	6	7	0.0952	0.0952	0.0687	0.00 to 0.05	0.01 to 0.04	0.00 to 0.04	0.01 to 0.13	0.01	0.04	0.01	0.06
Rhyl Flats Offshore Wind Farm	6	4	5	0.0952	0.0952	0.0687	0.00 to 0.04	0.00 to 0.02	0.00 to 0.03	0.00 to 0.09	0.01	0.00	0.00	0.01

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Walney 1 and 2	21	13	18	0.0952	0.0952	0.0687	0.01 to 0.14	0.00 to 0.09	0.00 to 0.09	0.01 to 0.31	0.03	0.01	0.01	0.05
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~~1.5.3.80~~1.5.3.82 As the predicted impact on razorbill from Rathlin Island SPA is >1% increase in baseline mortality (when considering 70% displacement and 10% mortality) the impact is further investigated by a PVA (see section ~~1.6.6) to determined~~1.6.41.6.6) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

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~~1.5.3.81~~1.5.3.83 As the impact from the Mona Offshore Wind Project alone was predicted to result in a >0.05% increase in razorbill baseline mortality from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA, an in-combination assessment is presented within Table 1-63 (70% displacement and 10% mortality and 70% displacement and 2% mortality).

[illegible]

a – The plans/projects included within this in-combination assessment cover a large spatial area and therefore it is considered necessary and proportionate to apply a correction factor to account for the number of adult birds within the whole area and not presume that 100% of birds are adults (as done in the Mona Offshore Wind Project alone assessment All projects have used the age-class proportions from Furness (2015). During the non-breeding season this derived from the adult/immature proportion from the Appendix tables. For razorbill, the proportions are 52.22% of birds are adults in the pre- and post-breeding period, 53.48% of birds are adults in the non-breeding period.

[illegible]	[illegible]			[illegible]			[illegible]			[illegible]				
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Awel y Môr Offshore Wind Farm	175	34	79	0.0371	0.0371	0.0201	0.02 to 0.~~50~~46	0.01 to 0.~~10~~09	0.00 to 0.~~12~~11	0.~~10~~03 to 0.66	0.09	0.04	0.01	0.14
~~Erebus Floating Wind Demo~~Burbo Bank Extension	0	0	15	0.0371	0.0371	0.0201	0.~~06~~00 to ~~1.33~~0.00	0.~~01~~00 to ~~2.53~~0.00	0.~~06~~00 to 0.~~86~~02	0.~~27~~00 to 0.02	0.~~06~~00	0.~~27~~02	0.00	0.02

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Erebus Floating Wind Demo	468	892	561	0.0371	0.0371	0.0201	0.05 to 1.22	0.01 to 2.32	0.05 to 0.79	0.12 to 4.32	[illegible]	[illegible]	[illegible]	[illegible]
TwinHub (Wave Hub Floating Wind Farm)	0	0	28	0.0371	0.0371	0.0201	0.00 to 0.00	0.00 to 0.00	0.00 to 0.04	0.00 to 0.04	[illegible]	[illegible]	[illegible]	[illegible]
Walney (3 and 4) Extension Offshore Wind Farm	0	456	1609	0.0371	0.0371	0.0201	0.00 to 0.00	0.00 to 1.~~30~~19	0.03 to 2.~~47~~26	0.~~00~~03 to 3.45	[illegible]	[illegible]	[illegible]	[illegible]
West of Duddon Sands Offshore Wind Farm	0	0	106	0.0371	0.0371	0.0201	0.00 to 0.00	0.00 to 0.00	0.00 to 0.~~16~~15	0.00 to 0.	[illegible]	[illegible]	[illegible]	[illegible]

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										15					
West of Orkney Windfarm	51	75	8	0.0371	0.0371	0.0201	0.01 to 0.~~14~~13	0.00 to 0.~~21~~20	0.00 to 0.01	0.01 to 0.34		0.03	0.02	0.02	0.07
White Cross Offshore Windfarm	180	21	189	0.0371	0.0371	0.0201	0.02 to 0.~~51~~47	0.00 to 0.~~06~~05	0.00 to 0.~~29~~27	0.~~10~~02 to 0.79		0.09	0.01	0.01	0.11
Morecambe Offshore Windfarm Generation Assets	203	352	313	0.0371	0.0371	0.0201	0.02 to 0.~~58~~53	0.01 to ~~1.00~~0.91	0.02 to 0.~~48~~44	0.~~12~~06 to 0.1	~~0.07~~	0.11	0.06	0.10	0.27

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										88				
Morgan Offshore Wind Project Generation Assets	87	54	122	0.0371	0.0371	0.0201	0.01 to 0.~~25~~23	0.01 to 0.~~15~~14	0.00 to 0.~~19~~17	0.02 to 0.54	0.05	0.~~0~~4 03	0.02	0.09
Mona Offshore Wind Project	1,005	48	221	0.0371	0.0371	0.0201	0.11 to 2.61	0.00 to 0.12	0.00 to 0.31	0.12 to 3.04	0.52	0.02	0.01	0.56
[illegible]														
Burbo Bank	5	3	5	0.0371	0.0371	0.0201	0.00 to 0.01	0.00 to 0.01	0.00 to 0.01	0.00 to 0.03	0.00	0.00	0.00	0.00
Gwynt y Môr Offshore Wind Farm	20	11	17	0.0371	0.0371	0.0201	0.00 to 0.05	0.00 to 0.03	0.00 to 0.02	0.00 to	0.01	0.00	0.00	0.02

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												0.11				
~~Mona~~Ormonde Offshore Wind ~~Project~~Farm	5	3	4	0.0371	0.0371	0.0201	0.~~12~~00 to ~~2.86~~0.01	0.01 to 0.~~14~~01	0.00 to 0.~~34~~01	~~0.57~~	~~0.02~~	0.01 to 0.03	0.00	0.05	0.00	0.05
Robin Rigg	8	6	7	0.0371	0.0371	0.0201	0.00 to 0.02	0.00 to 0.01	0.00 to 0.01			0.00 to 0.05	0.00	0.02	0.00	0.02
Rhyl Flats Offshore Wind Farm	6	4	5	0.0371	0.0371	0.0201	0.00 to 0.02	0.00 to 0.01	0.00 to 0.01			0.00 to 0.03	0.00	0.00	0.00	0.01
Walney 1 and 2	21	13	18	0.0371	0.0371	0.0201	0.00 to 0.05	0.00 to 0.03	0.00 to 0.03			0.00 to 0.	0.01	0.00	0.00	0.02

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1.5.3.84 As the predicted impact on razorbill from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA is >1% increase in baseline mortality (when considering 70% displacement and 10% mortality) the impact is further investigated by a PVA (see section ~~1.6.6~~1.6.4) to determine whether AEoSI can be ruled out beyond reasonable scientific doubt.

1

1.6.1.1 Given the considerations set out in section 1.1.2, the Applicant would note that the scenarios set out in this section are highly conservative, should not be interpreted in isolation, and do not represent a realistic scenario. The Applicant maintains the conclusions presented in the HRA Stage 2 ISAA Part Three: SPAs and Ramsar sites Assessments (REP2-010) are accurate, although this document presents the full range of assessment scenarios as requested by the SNCBs.

1.6.1.2 Table 1-64 provides a summary of those sites and species where the increase in baseline mortality from in-combination impacts was found to exceed 1% when considering the upper displacement and mortality range recommended by the SNCBs (Table 1-2).

1.6.1.3 A PVA has been undertaken for each SPA and species which exceeds a >1% increase in baseline mortality for the ~~upper~~worst-case displacement and mortality threshold impact for common guillemot, razorbill, northern gannet and greater black-backed gull. PVAs have also been undertaken for the alternative approach for common guillemot (using 70% displacement rate and 2% mortality rate) when predicted impacts would result in an increase in baseline mortality of >1%. PVAs for black-legged kittiwake have been undertaken when using an alternative approach (using 30% displacement and 3% mortality rate) when predicted impacts would result in an increase in baseline mortality of >1%. The results of the PVAs are presented in section 1.6

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible][1]

Common guillemot	~~Non-breeding~~ Annual	Displacement	Sule Skerry and Sule Stack SPA	~~228.45~~229.31	24.~~54~~63%	45.~~69~~86
			North Rona and Sula Sgeir SPA	~~32.59~~33.16	5.~~34~~44%	6.~~52~~63

			Cape Wrath SPA	~~182.64~~185.75	5.~~47~~56%	~~36.53~~37.15
			Handa SPA	~~249.20~~253.51	5.~~38~~47%	~~49.84~~50.70
			Shiant Isles SPA	~~33.49~~34.07	5.~~33~~43%	6.~~70~~81
			Flannan Isles SPA	~~63.75~~64.87	5.~~33~~42%	12.~~75~~97
			St Kilda SPA	~~102.14~~103.92	5.~~33~~43%	20.~~43~~78
			Canna and Sanday SPA	25.~~37~~81	5.~~32~~41%	5.~~07~~16

			Mingulay and Berneray SPA	~~88.00~~89.53	5.~~33~~43%	17.~~60~~91
			North Colonsay and Western Cliffs SPA	~~92.26~~93.87	5.~~60~~70%	18.~~45~~77
			Ailsa Craig SPA	~~35.92~~36.54	5.~~61~~71%	7.~~18~~31
			Rathlin Island SPA	~~598.02~~608.47	5.~~61~~71%	~~119.60~~121.67
			Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	~~412.93~~414.68	20.~~76~~85%	82.~~59~~94
Razorbill		Displacement	Cape Wrath SPA	~~6.35~~5.95	1.~~45~~36%	0.~~80~~78

	~~Non-Breeding~~ Annual					
			Handa SPA	~~15.72~~14.74	1.~~45~~36%	1.~~99~~9
			Shiant Isles SPA	12.~~95~~14	1.~~45~~36%	1.~~64~~60
			Flannan Isles SPA	3.00	1.36%	0.40
			Mingulay and Berneray	~~30.76~~28.85	1.~~45~~36%	3.~~89~~80
			Rathlin Island	~~46.85~~43.94	1.~~45~~36%	5.~~93~~78
			Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	~~16.61~~15.58	1.~~32~~24%	2.~~11~~07
			~~Flannan Isles SPA~~	~~3.20~~	~~1.45~~	~~0.40~~

Black-legged kittiwake	Annual	Displacement and collisions	Ailsa Craig SPA	2.~~03~~08	1.~~42~~46%	0.~~63~~64
			Lambay Island SPA	~~14.27~~15.79	1.~~47~~63%	4.~~01~~79
			Ireland’s Eye SPA	~~5.50~~6.02	1.~~21~~23%	1.~~47~~70
			Howth Head Coast SPA	~~11.74~~12.63	2.~~24~~41%	3.~~17~~51
			Wicklow Head SPA	~~6.84~~8.40	~~3.48~~4.27%	2.~~26~~40
			Skomer, Skokholm and the Seas ~~eshire~~off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA	72.~~65~~79	24.~~71~~76%	15.~~38~~37

~~Nothern~~Northern gannet	Annual	Displacement and collisions	Ailsa Craig SPA	~~106.40~~117.82	~~1.98~~2.19%	~~N/A~~-
			Grassholm SPA	~~132.22~~135.51	2.~~27~~32%	
			~~Skelligs SPA~~	~~13.49~~	~~1.76%~~	
~~Glack~~Great black-backed gull	Non-breeding	Collision	Isles of Scilly SPA	9.~~58~~38	7.~~60~~44%	~~N/A~~-

[1] The ‘alternative approach’ considered for common guillemot, razorbill and black-legged kittiwake using accepted displacement and mortality rates as recently accepted and used by the Secretary of State within the HRAs for Hornsea Two/Three/Four, East Anglia One North, East Anglia Two, Norfolk Boreas, Norfolk Vanguard, Sheringham Shoal and Dudgeon Extension Projects (SEP and DEP). The rates presented for common guillemot and razorbill are 70% displacement and 2% mortality (see paragraph 1.2.1.7). The rates used for black-legged kittiwake are 30% displacement and 3% mortality (see paragraph 1.2.1.9).

1 [illegible]

[illegible]

1.6.2.1 One scenario was modelled within the PVA for black-legged kittiwake from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA, considering ~~the scenario of~~ 30% displacement and 3% mortality, in line with the NatureScot guidance (NatureScot, 2023). A PVA was not undertaken for the worst-case scenario (70% displacement and 10% mortality) due to a lack of empirical evidence.

1.6.2.2 For the scenario using a 30% displacement rate and 3% mortality rate, the predicted impact would result in the median growth rate ~~continuing to be >~~being marginally <1 and therefore indicating that the population is predicted to ~~increase~~decrease in size under these modelled parameters (Table 1-65). The counterfactual of the growth rate ~~also~~however indicates the impact scenarios are near to the baseline or the non-impacted predicted growth rate~~.~~, therefore the difference between the baseline and the impacted scenario is small (0.6% smaller).

1.6.2.3 It should be noted that if the displacement assessment was not included, as advised by NRW (A), the predicted impact would be halved However for precaution and to present the impacts that the JNCC have requested to be included a PVA was undertaken on both combined mortality from both displacement and collisions.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~2,265~~3,207	~~11.08~~2%	1.~~0131~~013	0.~~8411~~810	1.~~2211~~167	-	-
2030	Impact	~~2,244~~3,190	~~10.25~~1%	1.~~0038~~008	0.~~8363~~805	1.~~2084~~161	0.~~9913~~994	0.~~9910~~994
2065	Baseline	3,~~704~~534	~~45.63~~12%	1.~~0142~~003	0.~~9936~~981	1.~~0342~~023	-	-
2065	Impact	2,~~676~~862	~~24.74~~-9%	~~1.0050~~0.997	0.~~9847~~975	1.~~0249~~017	0.~~7221~~812	0.~~9910~~994

1.6.2.4 The population of black-legged kittiwake from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA has remained stable over the last 14 years of colony monitoring (since 2010). This stable population is in light of the predicted annual impact from the projects considered in-combination (Figure 1.1). The average colony count is 2,973 birds ± 450 (standard deviation). Therefore, the predicted population after the 35 years (2,862 birds) of modelling is within the natural range of the population. It should also be noted that as projects are decommissioned the impact would also be removed, however the PVA is unable to be run like that currently.

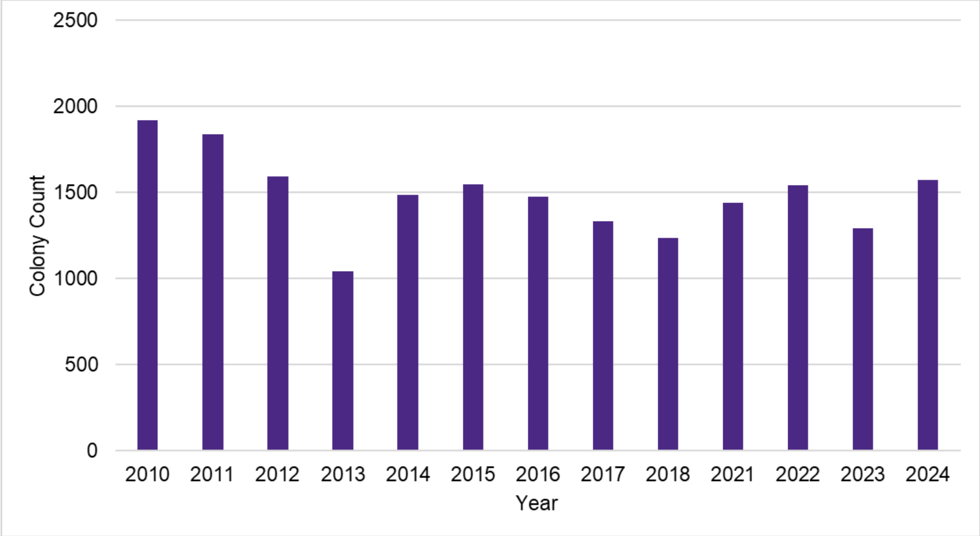

Figure 1.1: Colony count monitoring of black-legged kittiwake from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA.

~~1.6.2.3~~1.6.2.5 As the results of the PVA undertaken for black-legged kittiwake from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA indicated an ~~increasing~~stable population size when compared to the long-term (10 year) average with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

□ □□□□□ □□ □□d□□□□

~~1.6.2.4~~1.6.2.6 One scenario was modelled within the PVA for black-legged kittiwake from Wicklow Head SPA, considering ~~the scenario of~~ 30% displacement and 3% mortality, in line with the NatureScot guidance (NatureScot, 2023). A PVA was not undertaken for the worst-case scenario (70% displacement and 10% mortality) due to lack of empirical evidence.

~~1.6.2.5~~1.6.2.7 For the scenario, the predicted impact would result in the median growth rate continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-66). The counterfactual of the growth rate also indicates the impact scenarios are close ~~-~~to the baseline or the non-impacted predicted growth rate.

[illegible] 1-[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	1,~~671~~391	~~23.96~~3%	1.~~0165~~017	0.~~8454~~815	1.~~2143~~163	-	-
2030	Impact	1,~~669~~387	~~23.81~~3%	1.~~0144~~016	0.~~8418~~809	1.~~2108~~160	0.~~9978~~998	0.~~9981~~998
2065	Baseline	2,746	~~103.71~~104%	1.~~0143~~003	0.~~9940~~981	1.~~0343~~022	-	-
2065	Impact	2,565	90.~~24~~%	1.~~0122~~001	0.~~9918~~979	1.~~0322~~020	0.~~9312~~927	0.~~9980~~998

~~1.6.2.6~~1.6.2.8 As the results of the PVA undertaken for black-legged kittiwake from Wicklow Head SPA indicated an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the ~~sites~~site's conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

1[illegible] [illegible]

[illegible]

1.6.3.1 Two scenarios were modelled within the PVA for common guillemot from Ailsa Craig SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.2 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-67). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~15,946~~16,095	~~51.95%~~2.73	1.~~0255~~027	~~1.0199~~0.952	1.~~0312~~095	-	-

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	70% and 2%	~~15,936~~16,063	~~51.86%~~2.67	1.~~0247~~027	~~1.0190~~0.952	1.~~0304~~094	0.~~9991~~999	0.~~9993~~999
2030	70% and 10%	~~15,887~~16,019	~~51.39%~~2.36	1.~~0217~~024	~~1.0159~~0.949	1.~~0277~~091	0.~~9963~~996	0.~~9963~~996
2065	Baseline	~~38,549~~39,559	~~267.34%~~152.91	1.~~0255~~026	1.~~0250~~017	1.~~0261~~035	-	-
2065	70% and 2%	~~37,491~~38,444	~~257.26%~~145.78	1.~~0247~~025	1.~~0242~~017	1.~~0253~~034	0.~~9726~~972	0.~~9992~~999
2065	70% and 10%	~~33,579~~34,436	~~219.98%~~119.93	1.~~0216~~022	1.~~0211~~013	1.~~0222~~031	0.~~8711~~870	0.~~9962~~996

1.6.3.3 As the results of the two PVAs undertaken for common guillemot from Ailsa Craig SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.4 Two scenarios were modelled within the PVA for common guillemot from Canna and Sanday SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.5 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-68). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~16,930~~17,159	~~116.33~~119%	1.~~0255~~028	~~1.0201~~0.951	1.~~0309~~094	-	-
2030	70% and 2%	~~16,914~~17,175	~~116.13~~119%	1.~~0249~~027	~~1.0193~~0.951	1.~~0303~~094	0.~~9991~~999	0.~~9994~~999

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	70% and 10%	~~16,867~~17,128	~~115.53~~119%	1.~~0220~~024	~~1.0166~~0.949	1.~~0276~~090	0.~~9961~~997	0.~~9966~~997
2065	Baseline	~~40,910~~42,195	~~422.74~~439%	1.~~0255~~026	1.~~0250~~017	1.~~0261~~035	-	-
2065	70% and 2%	~~39,861~~41,108	~~409.34~~425%	1.~~0248~~025	1.~~0243~~016	1.~~0253~~034	0.~~9741~~974	0.~~9993~~999
2065	70% and 10%	~~35,918~~37,021	~~358.95~~373%	1.~~0218~~022	1.~~0213~~014	1.~~0224~~031	0.~~8778~~876	0.~~9964~~996

1.6.3.6 As the results of the two PVAs undertaken for common guillemot from Canna and Sanday SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.7 Two scenarios were modelled within the PVA for common guillemot from Cape Wrath SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.8 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-69). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~115,402~~117,020	~~110.90~~114%	1.~~0256~~027	~~1.0234~~0.951	1.~~0276~~097	-	-
2030	70% and 2%	~~115,329~~116,908	~~110.77~~113%	1.~~0248~~026	~~1.0227~~0.949	1.~~0269~~096	0.~~9993~~999	0.~~9993~~999

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	70% and 10%	~~114,994~~116,591	~~110.16~~113%	1.~~0219~~023	~~1.0197~~0.947	1.~~0240~~093	0.~~9963~~996	0.~~9964~~996
2065	Baseline	~~278,879~~288,049	~~409.67~~426%	1.~~0255~~026	1.~~0253~~017	1.~~0257~~035	-	-
2065	70% and 2%	~~271,531~~280,127	~~396.24~~411%	1.~~0248~~025	1.~~0246~~017	1.~~0250~~034	0.~~9734~~973	0.~~9993~~999
2065	70% and 10%	~~243,882~~251,446	~~345.71~~359%	1.~~0217~~022	1.~~0215~~013	1.~~0219~~031	0.~~8744~~873	0.~~9963~~996

1.6.3.9 As the results of the two PVAs undertaken for common guillemot from Cape Wrath SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.10 Two scenarios were modelled within the PVA for common guillemot from Flanna Isles SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.11 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-70). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~42,430~~43,025	~~116.33%~~119	1.~~0255~~028	~~1.0221~~0.952	1.~~0290~~093	-	-
2030	70% and 2%	~~42,405~~43,016	~~116.20%~~119	1.~~0248~~027	~~1.0213~~0.951	1.~~0284~~093	0.~~9993~~999	0.~~9993~~999

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	70% and 10%	42,~~286~~880	~~115.59%~~119	1.~~0220~~024	~~1.0184~~0.949	1.~~0255~~090	0.~~9964~~997	0.~~9966~~996
2065	Baseline	~~102,526~~105,883	~~422.72%~~440	1.~~0255~~026	1.~~0252~~017	1.~~0259~~035	-	-
2065	70% and 2%	~~99,901~~103,138	~~409.33%~~426	1.~~0248~~025	1.~~0244~~016	1.~~0251~~034	0.~~9742~~974	0.~~9993~~999
2065	70% and 10%	~~89,955~~92,716	~~358.63%~~373	1.~~0218~~022	1.~~0215~~013	1.~~0222~~031	0.~~8774~~876	0.~~9964~~996

1.6.3.12 As the results of the two PVAs undertaken for common guillemot from Flannan Isles SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.13 Two scenarios were modelled within the PVA for common guillemot from Handa SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.14 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-71). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~121,445~~122,759	~~59.83%~~62	1.~~0255~~028	~~1.0235~~0.953	1.~~0276~~098	-	-
2030	70% and 2%	~~121,370~~122,681	~~59.73%~~61	1.~~0248~~027	~~1.0227~~0.953	1.~~0269~~097	0.~~9993~~999	0.~~9993~~999
2030	70% and 10%	~~121,023~~122,252	~~59.27%~~61	1.~~0220~~024	~~1.0199~~0.950	1.~~0241~~094	0.~~9966~~996	0.~~9965~~996

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2065	Baseline	~~293,492~~301,999	~~286.24%~~297	1.~~0255~~026	1.~~0253~~017	1.~~0257~~034	-	-
2065	70% and 2%	~~285,845~~293,793	~~276.18%~~287	1.~~0248~~025	1.~~0246~~016	1.~~0250~~034	0.~~9739~~974	0.~~9993~~999
2065	70% and 10%	~~257,230~~264,092	~~238.52%~~248	1.~~0218~~022	1.~~0216~~013	1.~~0220~~031	0.~~8765~~875	0.~~9963~~996

1.6.3.15 As the results of the two PVAs undertaken for common guillemot from Handa SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.16 Two scenarios were modelled within the PVA for common guillemot from Mingulay and Berneray SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.17 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-72). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible] 1-[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	45,~~483~~864	~~68.12~~70%	1.~~0255~~027	~~1.0221~~0.949	1.~~0289~~095	-	-
2030	70% and 2%	45,~~441~~835	~~67.96~~69%	1.~~0249~~026	~~1.0214~~0.949	1.~~0282~~094	0.~~9993~~999	0.~~9993~~999
2030	70% and 10%	45,~~318~~704	~~67.51~~69%	1.~~0220~~024	~~1.0184~~0.946	1.~~0254~~091	0.~~9966~~996	0.~~9965~~996
2065	Baseline	~~109,888~~112,624	~~306.18~~316%	1.~~0255~~026	1.~~0252~~017	1.~~0259~~034	-	-

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2065	70% and 2%	~~107,053~~109,699	~~295.70~~305%	1.~~0248~~025	1.~~0245~~016	1.~~0251~~034	0.~~9741~~974	0.~~9993~~999
2065	70% and 10%	~~96,427~~98,611	~~256.42~~264%	1.~~0218~~022	1.~~0215~~013	1.~~0221~~030	0.~~8774~~876	0.~~9964~~996

1.6.3.18 As the results of the two PVAs undertaken for common guillemot from Mingulay and Berneray SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.19 Two scenarios were modelled within the PVA for common guillemot from North Colonsay and Western Cliffs SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.20 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-73). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~56,950~~57,645	~~110.93~~113%	1.~~0255~~027	~~1.0225~~0.950	1.~~0287~~097	-	-
2030	70% and 2%	~~56,898~~57,646	~~110.73~~114%	1.~~0248~~026	~~1.0217~~0.949	1.~~0278~~095	0.~~9989~~999	0.~~9993~~999
2030	70% and 10%	~~56,736~~57,430	~~110.13~~113%	1.~~0218~~023	~~1.0187~~0.947	1.~~0249~~093	0.~~9960~~996	0.~~9964~~996
2065	Baseline	~~137,647~~141,981	~~409.80~~426%	1.~~0255~~026	1.~~0252~~017	1.~~0258~~035	-	-

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2065	70% and 2%	~~133,916~~137,895	~~395.98~~411%	1.~~0248~~025	1.~~0245~~016	1.~~0250~~034	0.~~9727~~972	0.~~9992~~999
2065	70% and 10%	~~119,934~~123,332	~~344.20~~357%	1.~~0216~~022	1.~~0213~~013	1.~~0219~~031	0.~~8714~~870	0.~~9962~~996

1.6.3.21 As the results of the two PVAs undertaken for common guillemot from North Colonsay and Western Cliffs SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.22 Two scenarios were modelled within the PVA for common guillemot from North Rona and Sula Sgeir SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.23 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-74). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	15,~~588~~740	~~55.88~~57%	1.~~0254~~028	~~1.0199~~0.952	1.~~0311~~096	-	-
2030	70% and 2%	15,~~573~~665	~~55.73~~57%	1.~~0248~~024	~~1.0189~~0.949	1.~~0304~~094	0.~~9993~~997	0.~~9994~~997
2030	70% and 10%	15,~~529~~730	~~55.29~~57%	1.~~0219~~027	~~1.0162~~0.952	1.~~0279~~097	0.~~9964~~999	0.~~9965~~999
2065	Baseline	~~37,671~~38,560	~~276.71~~286%	1.~~0255~~026	1.~~0250~~017	1.~~0261~~034	-	-
2065	70% and 2%	~~36,680~~33,800	~~266.80~~238%	1.~~0248~~022	1.~~0242~~013	1.~~0253~~030	0.~~9739~~876	0.~~9993~~996

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2065	70% and 10%	~~33,026~~37,615	~~230.26~~276%	1.~~0218~~025	1.~~0212~~016	1.~~0224~~034	0.~~8770~~974	0.~~9964~~999

1.6.3.24 As the results of the two PVAs undertaken for common guillemot from North Rona and Sula Sgeir SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.25 Two scenarios were modelled within the PVA for common guillemot from Rathlin Island SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.26 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-75). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~279,377~~282,407	~~59.83~~62%	1.~~0255~~027	~~1.0242~~0.953	1.~~0269~~098	-	-
2030	70% and 2%	~~279,185~~282,156	~~59.72~~61%	1.~~0248~~027	~~1.0234~~0.952	1.~~0262~~097	0.~~9993~~999	0.~~9993~~999
2030	70% and 10%	~~278,364~~281,323	~~59.25~~61%	1.~~0218~~024	~~1.0204~~0.950	1.~~0232~~094	0.~~9964~~996	0.~~9963~~996
2065	Baseline	~~675,186~~694,363	~~286.27~~297%	1.~~0255~~026	1.~~0254~~017	1.~~0257~~034	-	-
2065	70% and 2%	~~656,858~~675,334	~~275.79~~286%	1.~~0247~~025	1.~~0246~~016	1.~~0249~~034	0.~~9728~~973	0.~~9992~~999
2065	70% and 10%	~~588,342~~603,925	~~236.59~~246%	1.~~0216~~022	1.~~0215~~013	1.~~0218~~030	0.~~8715~~870	0.~~9962~~996

1.6.3.27 As the results of the two PVAs undertaken for common guillemot from Rathlin Island SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.28 Two scenarios were modelled within the PVA for common guillemot from Shiant Isles SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.29 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-76). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible] 1-[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	17,916	74%	1.029	0.952	1.095	-	-
2030	70% and 2%	17,899	74%	1.028	0.952	1.096	0.999	0.999
2030	70% and 10%	17,829	73%	1.025	0.949	1.092	0.996	0.996
2065	Baseline	43,867	326%	1.026	1.017	1.034	-	-
2065	70% and 2%	42,690	315%	1.025	1.016	1.034	0.974	0.999
2065	70% and 10%	38,391	273%	1.022	1.014	1.031	0.876	0.996

1.6.3.30 As the results of the two PVAs undertaken for common guillemot from Shiant Isles SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the ~~sites~~site's conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects

S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.3.31 Two scenarios were modelled within the PVA for common guillemot from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.32 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-77). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate when considering the 70% displacement and 2% mortality.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~49,548~~69,654	~~51.99~~114%	1.~~0256~~027	~~1.0222~~0.950	1.~~0287~~097	-	-
2030	70% and 2%	~~49,413~~69,293	~~51.57~~113%	1.~~0228~~023	~~1.0194~~0.946	1.~~0260~~092	0.~~9972~~996	0.~~9973~~996
2030	70% and 10%	~~48,876~~68,166	~~49.93~~109%	1.~~0117~~005	~~1.0083~~0.929	1.~~0150~~074	0.~~9864~~979	0.~~9865~~979
2065	Baseline	~~119,751~~171,302	~~267.33~~425%	1.~~0255~~026	1.~~0252~~017	1.~~0258~~035	-	-
2065	70% and 2%	~~108,122~~145,921	~~231.66~~348%	1.~~0226~~021	1.~~0223~~013	1.~~0229~~030	0.~~9030~~853	0.~~9972~~996
2065	70% and 10%	~~71,737~~76,738	~~120.05~~135%	1.~~0110~~003	~~1.0107~~0.995	1.~~0114~~012	0.~~5992~~448	0.~~9859~~978

1.6.3.33 As the results of the two PVAs undertaken for common guillemot from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage

2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

St Kilda SPA

1.6.3.34 Two scenarios were modelled within the PVA for common guillemot from St Kilda SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.35 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-78). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible] 1-[illegible]

Year	[illegible]	[illegible]	[illegible]	Median growth rate	[illegible]	[illegible]	Median [illegible]	Median [illegible]
2030	Baseline	~~67,928~~68,888	~~116.33%~~119	1.~~0255~~028	~~1.0229~~0.952	1.~~0283~~094	-	-
2030	70% and 2%	~~67,866~~68,877	~~116.13%~~119	1.~~0248~~027	~~1.0220~~0.951	1.~~0275~~093	0.~~9991~~999	0.~~9993~~999
2030	70% and 10%	~~67,673~~68,750	~~115.52%~~119	1.~~0219~~024	~~1.0192~~0.949	1.~~0248~~091	0.~~9963~~996	0.~~9965~~997
2065	Baseline	~~164,167~~169,390	~~422.82%~~439	1.~~0255~~026	1.~~0253~~017	1.~~0258~~035	-	-
2065	70% and 2%	~~159,888~~164,904	~~409.20%~~425	1.~~0248~~025	1.~~0245~~016	1.~~0251~~034	0.~~9743~~974	0.~~9993~~999
2065	70% and 10%	~~143,976~~148,256	~~358.52%~~372	1.~~0218~~022	1.~~0215~~013	1.~~0221~~031	0.~~8773~~876	0.~~9964~~996

1.6.3.36 As the results of the two PVAs undertaken for common guillemot from St Kilda SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

Sule Skerry and Sule Stack SPA

1.6.3.37 Two scenarios were modelled within the PVA for common guillemot from Sule Skerry and Sule Stack SPA, one considering the worst-case scenario of 70% displacement and 10% mortality and one considering an alternative approach considering 70% displacement and 2% mortality.

1.6.3.38 For both scenarios, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-78). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate when considering the 70% displacement and 2% mortality.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~33,864~~34,307	~~121.83%~~125	1.~~0255~~027	~~1.0217~~0.951	1.~~0294~~096	-	-
2030	70% and 2%	33,~~761~~794	121~~.15%~~	1.~~0223~~010	~~1.0184~~0.935	1.~~0261~~079	0.~~9969~~984	0.~~9968~~984
2030	70% and 10%	~~33,326~~34,190	~~118.30%~~124	1.~~0091~~023	~~1.0052~~0.947	1.~~0132~~093	0.~~9842~~997	0.~~9841~~997
2065	Baseline	~~81,839~~84,343	~~436.09%~~452	1.~~0255~~026	1.~~0252~~017	1.~~0259~~035	-	-
2065	70% and 2%	~~72,560~~45,937	~~375.30%~~201	1.~~0221~~009	1.~~0217~~000	1.~~0225~~018	0.~~8866~~545	0.~~9967~~983
2065	70% and 10%	~~44,652~~74,702	~~192.49%~~389	1.~~0084~~023	1.~~0080~~014	1.~~0089~~031	0.~~5456~~886	0.~~9833~~997

1.6.3.39 As the results of the two PVAs undertaken for common guillemot from Sule Skerry and Sule Stack SPA indicating an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

1[illegible] [illegible]

[illegible]

1.6.4.1 One scenario was modelled within the PVA for northern gannet from Ailsa Craig SPA, considering the worst-case scenario of 80% displacement and 10% mortality and collisions when using the species-group avoidance rate.

1.6.4.2 The PVA resulted in a predicted impact which indicates that median growth rate (and 95% confidence intervals) ~~continue~~continues to be >1 and therefore indicate that the population is predicted to increase in size under these modelled parameters (Table

1-80). The counterfactual of the growth rate also indicates the impact scenario is close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~78,787~~88,919	~~18.56~~34%	1.~~0110~~018	~~1.0082~~0.9632	1.~~0137~~076	-	-
2030	Impact	~~78,645~~88,743	~~18.35~~34%	1.~~0092~~017	~~1.0065~~0.960	1.~~0120~~074	0.~~9983~~998	0.~~9983~~998
2065	Baseline	~~115,428~~168,666	~~73.70~~154%	1.~~0110~~019	1.~~0107~~012	1.~~0113~~025	-	-
2065	Impact	~~107,897~~156,722	~~62.37~~136%	1.~~0091~~016	1.~~0088~~010	1.~~0094~~023	0.~~9345~~998	0.~~9981~~928

1.6.4.3 As the results of the PVA undertaken for northern gannet from Ailsa Craig SPA indicate an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.4.4 One scenario was modelled within the PVA for northern gannet from Grassholm SPA, considering the worst-case scenario of 80% displacement and 10% mortality and collisions when using the species-group avoidance rate.

1.6.4.5 The PVA resulted in a predicted impact which indicates that median growth rate (and 95% confidence intervals) ~~continue~~continues to be >1 and therefore indicate that the population is predicted to increase in size under these modelled parameters (Table 1-81). The counterfactual of the growth rate also indicates the impact scenario is close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~85,391~~94,713	~~18.56~~32%	1.~~011~~0019	~~1.0084~~0.964	1.~~0136~~077	-	-

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Impact	~~85,227~~94,523	~~18.33~~32%	1.~~0089~~018	~~1.0063~~0.962	1.~~0116~~075	0.~~9981~~998	0.~~9980~~998
2065	Baseline	~~125,131~~179,634	~~73.74~~149%	1.~~0110~~019	1.~~0107~~011	1.~~0113~~026	-	-
2065	Impact	~~115,757~~166,084	~~60.72~~100%	1.~~0088~~016	1.~~0085~~009	1.~~0091~~023	0.~~9251~~925	0.~~9978~~998

~~1.6.4.6~~ As the results of the PVA undertaken for northern gannet from Grassholm SPA indicate an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. ~~On coming to this conclusion the Applicant has had consideration of the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).~~

~~[illegible]~~

~~1.6.4.7 One scenario was modelled within the PVA for northern gannet from Skelligs SPA, considering the worst-case scenario of 80% displacement and 10% mortality and collisions when using the species-group avoidance rate.~~

~~1.6.4.8 The PVA resulted in a predicted impact which indicates that median growth rate (and 95% confidence intervals) continue to be >1 and therefore indicate that the population is predicted to increase in size under these modelled parameters (Table 1-82). The counterfactual of the growth rate also indicates the impact scenario is close to the baseline or the non-impacted predicted growth rate.~~

~~[illegible]~~

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~2030~~	~~Baseline~~	~~83,685~~	~~18.55%~~	~~1.0110~~	~~1.0083~~	~~1.0137~~	~~-~~	~~-~~
~~2030~~	~~Impact~~	~~83,685~~	~~18.55%~~	~~1.0107~~	~~1.0082~~	~~1.0134~~	~~0.9988~~	~~0.9988~~
~~2065~~	~~Baseline~~	~~122,633~~	~~73.73%~~	~~1.0110~~	~~1.0107~~	~~1.0113~~	~~-~~	~~-~~
~~2065~~	~~Impact~~	~~121,659~~	~~72.35%~~	~~1.0107~~	~~1.0104~~	~~1.0111~~	~~0.9920~~	~~0.9998~~

~~1.6.4.9~~1.6.4.6 ~~As the results of the PVA undertaken for northern gannet from Skelligs SPA indicate an increasing population size with and without the predicted impacts it can be~~

~~concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion the Applicant has had consideration of~~On coming to this conclusion, the Applicant has considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

1 [illegible]

[illegible]

1.6.5.1 One scenario was modelled within the PVA for great black-backed gull from Isles of Scilly SPA, considering the worst-case scenario of collisions when using the species-group avoidance rate~~.~~ (0.9939).

1.6.5.2 The PVA resulted in a predicted impact which indicates that median growth rate (and 95% confidence intervals) ~~continue~~continues to be >1 and therefore indicate that the population is predicted to increase in size under these modelled parameters (Table 1-82).

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	29,~~769~~819	1,~~552~~555%	1.~~1266~~126	1.~~1206~~081	1.~~1325~~177		
2030	Impact	29,~~599~~681	1,~~543~~547%	1.~~1202~~120	1.~~1141~~075	1.~~1263~~170	0.~~9940~~994	0.~~9944~~994
2065	Baseline	1,~~929,801~~923,113	106,~~992~~621%	1.~~1266~~127	1.~~1263~~122	1.~~1269~~131		
2065	Impact	1,~~565,177~~566,993	86,~~758~~859%	1.~~1201~~120	1.~~1198~~115	1.~~1203~~125	0.~~8105~~814	0.~~9942~~994

1.6.5.3 As the results of the PVA undertaken for great black-backed gull from Isles of Scilly SPA indicate an increasing population size with and without the predicted in-combination impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

Review of connectivity between the northeast Irish Sea and the Isles of Scilly SPA

1.6.5.4 In addition to the previously presented evidence (section 1.5 of Volume 6, Annex 5.3: Offshore Ornithology Collision Risk Modelling Technical Report (REP2-020)), the Applicant has provided additional clarification and certainty to the conclusion of no AEoI for the Isles of Scilly SPA great black-backed gull feature. The Applicant has provided a PVA with the gap filled projects for great black-backed gull from the Isles of Scilly SPA.

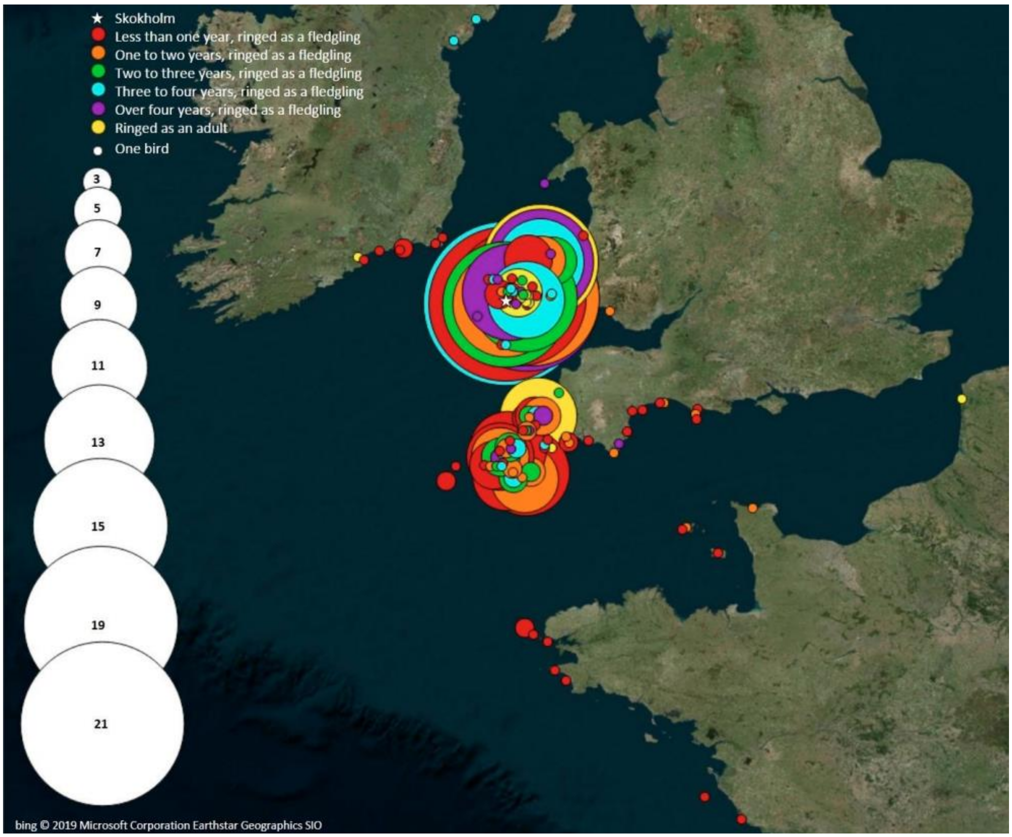
1.6.5.5 Following a further review of Furness (2015) and additional evidence, it is clear that using the 'South-west and Channel BDMPS' may not be the most appropriate due to the Mona Offshore Wind Project's location within one BDMPS but close to another BDMPS. The 'South-west and Channel BDMPS' northern boundary is defined as a line through the Isle of Man (southwest to northeast); a separate BDMPS (the West of Scotland BDMPS) is defined to the north of this boundary. Furness (2015) estimates that 90% of the adult birds and 70% of immature birds from the Isles of Scilly SPA are present in the 'South-west and Channel BDMPS', but 0% are present within the 'West of Scotland BDMPS'. Section 14.12 of Furness (2015) also states the following:

> *"Adult great black-backed gulls from UK colonies may remain very close to the colony throughout the year, while immatures tend to move south but not over very large distances. So the distribution of UK SPA birds within the BDMPS is likely to be aggregated in waters close to SPA colony sites. This may be especially the case in the West of Scotland BDMPS, with adult birds from North Rona mainly being close to North Rona, and in UK South-west waters and Channel with adult birds being around the Scillies all through the year."*

1.6.5.6 Furthermore, migratory movements using ringing recoveries (Figure 1.2; Spina *et al*., 2022) also indicate that no great black-backed gull ringed in the Isles of Scilly has been recorded at a more northernly latitude than the southern coast of Ireland, approximately 250 km southwest of the Mona Offshore Wind Project. A total of 62 great black-backed gull were ringed in the Isles of Scilly and recovered elsewhere as shown in Figure 1.2.

F[illegible]r[illegible] 1 [illegible] *et al* [illegible]0[illegible]

1.6.5.7 Additional evidence exists from a ringing project undertaken at Skokholm Island on great black-backed gull, which lies approximately 200 km further north than the Isles of Scilly. Between 2014 and 2022, none of the 266 great black-backed gulls ringed between 2012 and 2021 and resighted away from the colony were recorded in the north-eastern Irish Sea (Skokholm Bird Observatory, 2023). Great black-backed gull generally tends to stay close to their natal or breeding colony, with some of the younger birds (red dots on the map) travelling further afield. The movement of younger birds is predominately to the south, to Cornwall and continental Europe (Figure 1.3).



F[illegible]r[illegible]1 [illegible]r[illegible]r[illegible]d[illegible]r[illegible]d[illegible] [illegible]01[illegible]d[illegible]0[illegible]r[illegible]rd[illegible]r[illegible]r[illegible]0[illegible]

1.6.5.8 In light of the evidence presented above demonstrating the lack of connectivity between the Isles of Scilly and the Mona Offshore Wind Project by great black-backed gull, the Applicant considers that beyond reasonable scientific doubt, there will be no AEOI without the need for an updated quantitative assessment. The assessment presented within the HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (APP-033) remains valid, and the additionality of the historical projects does not alter the results.

1.6.5.9 As stated within both JNCC and NRWs Relevant Representations (RR-011 and RR-033, respectively) and Written Representations (REP1-066 and REP1-056, respectively), the current PVA outputs, using the latest productivity and survival rates for great black-backed gull do not replicate the current population trend. Therefore, the Applicant considers that this qualitative assessment provides adequate robust evidence as to why the Mona Offshore Wind Project would not present an AEOI (alone or in-combination) on the great black-backed gull from the Isles of Scilly SPA.

~~1.6.5.3~~1.6.5.10 Therefore, it would indicate that birds from the Isles of Scilly SPA are highly unlikely, given the evidence presented, to travel north into the Irish Sea and be susceptible to collisions from any offshore wind farm projects from this area. The predicted apportioned impact from the Mona Offshore Wind Farm Project on this SPA (i.e., a maximum of 0.4 birds) is, therefore, considered to be unsupported due to this lack of connectivity.

1[illegible] R[illegible]

[illegible]

1.6.6.1 One scenario was modelled within the PVA for razorbill from Cape Wrath SPA, considering the worst-case scenario of 70% displacement and 10% mortality. A PVA was not undertaken for the alternative approach (considering 70% displacement and 2% mortality) due to the impact predicted being <1% increase in baseline mortality and therefore not requiring a PVA (Parker *et al.*, 2023).

1.6.6.2 For the scenario, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-83). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible] 1-[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	5,674	35.74%	1.0105	0.9988	1.0221	-	-
2030	Impact	-5,657	35.33%	1.0087	0.9974	1.0200	0.9971	0.9981
2065	Baseline	8,135	94.62%	1.0104	1.0092	1.0115	-	-
2065	Impact	7,640	82.78%	1.0086	1.0074	1.0098	0.9395	0.9983

1.6.6.3 As the results of the PVA undertaken for razorbill from Cape Wrath SPA indicated an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). -This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

F[illegible]

1.6.6.4 One scenario was modelled within the PVA for razorbill from Flannan Isles SPA, considering the worst-case scenario of 70% displacement and 10% mortality. A PVA was not undertaken for the alternative approach (considering 70% displacement and 2% mortality) due to the impact predicted being <1% increase in baseline mortality and therefore not requiring a PVA (Parker *et al.*, 2023).

1.6.6.5 For the scenario, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-84). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	2,~~913~~802	~~38.58~~33.30%	1.~~0103~~0207	0.~~9946~~8384	1.~~0267~~1260	-	-
2030	Impact	2,~~906~~798	~~38.25~~33.11%	1.~~0089~~0193	0.~~9931~~8328	1.~~0242~~1239	0.~~9976~~9989	0.~~9984~~9981
2065	Baseline	~~4,182~~3,836	~~98.93~~82.49%	1.~~0104~~0093	~~1.0087~~0.9916	1.~~0120~~0256	-	-
2065	Impact	3,~~920~~598	~~86.49~~71.15%	1.~~0086~~0075	~~1.0069~~0.9899	1.~~0103~~0236	0.~~9369~~9380	0.9982

1.6.6.6 As the results of the PVA undertaken for razorbill from Flannan Isles SPA indicated an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.6.7 One scenario was modelled within the PVA for razorbill from Handa SPA, considering the worst-case scenario of 70% displacement and 10% mortality. A PVA was not undertaken for the alternative approach (considering 70% displacement and 2% mortality) due to the impact predicted being <1% increase in baseline mortality and therefore not requiring a PVA (Parker *et al.*, 2023).

1.6.6.8 For the scenario, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-85). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	12,~~648~~395	~~22.44~~19.99%	1.~~0104~~0202	~~1.0028~~0.8445	1.~~0178~~1264	-	-
2030	Impact	12,~~625~~365	~~22.22~~19.70%	1.~~0087~~0185	~~1.0006~~0.8445	1.~~0162~~1240	0.~~9986~~9982	0.9982
2065	Baseline	~~18,145~~16,934	~~75.65~~63.93%	1.~~0104~~0094	~~1.0096~~0.9919	1.~~0112~~0251	-	-
2065	Impact	~~17,042~~15,832	~~64.98~~53.26%	1.~~0086~~0077	~~1.0078~~0.9902	1.~~0094~~0233	0.~~9388~~9380	0.~~9983~~9982

1.6.6.9 As the results of the PVA undertaken for razorbill from Handa SPA indicated an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.6.10 One scenario was modelled within the PVA for razorbill from Mingulay and Berneray SPA, considering the worst-case scenario of 70% displacement and 10% mortality. A PVA was not undertaken for the alternative approach (considering 70% displacement and 2% mortality) due to the impact predicted being <1% increase in baseline mortality and therefore not requiring a PVA (Parker *et al.*, 2023).

1.6.6.11 For the scenario, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-86). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~25,009~~24,516	21.23~~.67~~%	1.~~0104~~0203	~~1.0049~~0.8444	1.~~0159~~1238	-	-
2030	Impact	24,~~963~~496	~~23.44~~21.13%	1.~~0087~~0191	~~1.0032~~0.8432	1.~~0141~~1220	0.~~9979~~9981	0.~~9983~~9984

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2065	Baseline	~~35,884~~33,611	~~77.45~~66.21%	1.~~0104~~0094	~~1.0098~~0.9912	1.~~0109~~0258	-	-
2065	Impact	~~33,711~~31,568	~~66.70~~56.10%	1.~~0086~~0076	~~1.0080~~0.9893	1.~~0092~~0239	0.~~9395~~9383	0.~~9983~~9982

1.6.6.12 As the results of the PVA undertaken for razorbill from Mingulay and Berneray SPA indicated an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). -This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.6.13 One scenario was modelled within the PVA for razorbill from Rathlin Island SPA, considering the worst-case scenario of 70% displacement and 10% mortality. A PVA was not undertaken for the alternative approach (considering 70% displacement and 2% mortality) due to the impact predicted being <1% increase in baseline mortality and therefore not requiring a PVA (Parker *et al.*, 2023).

1.6.6.14 For the scenario, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-87). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	~~37,299~~36,798	~~21.16~~19.53%	1.~~0104~~0221	~~1.0060~~0.8478	1.~~0148~~1295	-	-
2030	Impact	~~37,244~~36,724	~~20.98~~19.29%	1.~~0087~~0199	~~1.0043~~0.8474	1.~~0132~~1282	0.~~9985~~9981	0.~~9983~~9982
2065	Baseline	~~53,498~~49,711	~~73.77~~61.47%	1.~~0104~~0091	~~1.0099~~0.9910	1.~~0108~~0251	-	-
2065	Impact	~~50,268~~46,638	~~63.28~~51.49%	1.~~0086~~0073	~~1.0081~~0.9893	1.~~0091~~0234	0.~~9399~~9380	0.~~9983~~9982

1.6.6.15 As the results of the PVA undertaken for razorbill from Rathlin Island SPA indicated an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.6.16 One scenario was modelled within the PVA for razorbill from Shiant Isles SPA, considering the worst-case scenario of 70% displacement and 10% mortality. A PVA was not undertaken for the alternative approach (considering 70% displacement and 2% mortality) due to the impact predicted being <1% increase in baseline mortality and therefore not requiring a PVA (Parker *et al.*, 2023).

1.6.6.17 For the scenario, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-88). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

Table 1-[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	10,~~617~~399	~~24.96~~22.40%	1.~~0104~~0235	~~1.0024~~0.8338	1.~~0186~~1281	-	-
2030	Impact	10,~~598~~373	~~24.74~~22.09%	1.~~0086~~0215	~~1.0003~~0.8313	1.~~0169~~1265	0.~~9979~~9982	0.~~9982~~9981
2065	Baseline	~~15,232~~14,214	~~79.28~~67.30%	1.~~0104~~0092	~~1.0095~~0.9911	1.~~0113~~0261	-	-
2065	Impact	~~14,311~~13,323	~~68.44~~56.81%	1.~~0086~~0074	~~1.0077~~0.9895	1.~~0095~~0241	0.~~9396~~9381	0.9982

1.6.6.18 As the results of the PVA undertaken for razorbill from Shiant Isles SPA indicated an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

[illegible]

1.6.6.19 One scenario was modelled within the PVA for razorbill from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA, considering the worst-case scenario of 70% displacement and 10% mortality. A PVA was not undertaken for the alternative approach (considering 70% displacement and 2% mortality) due to the impact predicted being <1% increase in baseline mortality and therefore not requiring a PVA (Parker *et al.*, 2023).

1.6.6.20 For the scenario, the predicted impact would result in the median growth rate (and 95% confidence intervals) continuing to be >1 and therefore indicating that the population is predicted to increase in size under these modelled parameters (Table 1-89). The counterfactual of the growth rate also indicates the impact scenarios are close to the baseline or the non-impacted predicted growth rate.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2030	Baseline	14,~~242~~023	~~18.66~~16.83%	1.~~0102~~0218	~~1.0031~~0.8396	1.~~0175~~1294	-	-
2030	Impact	~~14,219~~13,985	~~18.47~~16.52%	1.~~0088~~0196	~~1.0013~~0.8399	1.~~0163~~1278	0.~~9986~~9985	0.9985
2065	Baseline	~~20,431~~19,205	~~70.23~~60.01%	1.~~0104~~0093	~~1.0096~~0.9916	1.~~0111~~0254	-	-
2065	Impact	~~19,302~~18,093	~~60.82~~50.75%	1.~~0088~~0077	~~1.0080~~0.9900	1.~~0095~~0237	0.~~9450~~9436	0.9984

1.6.6.21 As the results of the PVA undertaken for razorbill from Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA indicated an increasing population size with and without the predicted impacts it can be concluded that there is no AEoSI, beyond reasonable scientific doubt, when considering the Mona Offshore Wind Project in-combination with other plans and projects. On coming to this conclusion, the Applicant has ~~had consideration of~~considered the sites conservation objectives (Appendix to ExQ1 Q1.10.6 Part B Conservation objectives for SPAs screened in for Likely Significant Effects S_D3_25.6). This conclusion replicates what was previously presented in HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

1 [illegible]

1.7.1.1 Following the submission of the Mona Offshore Wind Project application, the SNCBs requested additional clarification on the impacts presented within the EIA (specifically collisions) and HRA (specifically presenting a range of impacts). This supporting information technical note has been produced to provide the extra clarity that the SNCBs requested.

1.7.1.2 Within the EIA documentation the mean collision impacts were assessed, however the SNCBs requested that the LCI and UCI were also included within the assessment presented in the EIA and HRA. Within section 1.4 the impacts are assessed including the mean, LCI and UCI. When considering the worst-case scenario (UCI) the impact on all species (apart from great back-backed gull) resulted in >1% increase in baseline mortality and no change to the impact magnitude was predicted. For great black-backed gull a PVA was required as the UCI (and mean) impact were predicted to increase the baseline mortality by >1% (when considering the smallest foraging range breeding season population). The PVA predicted no change in the conclusions of the assessment, with the population predicted to increase in size when considering both the mean and UCI impacts.

1.7.1.3 When presenting the range of displacement impacts for each species and apportioning the impact to relevant SPAs, several SPAs required an in-combination assessment. The in-combination assessments (section 1.5.3) resulted in several SPAs requiring PVAs as the impacts predicted resulted in an increase in baseline mortality of >1%. The in-combination assessments included the gap-filled projects, which previously were only considered qualitatively within the Applicant's DCO application and were not included in the version of this note submitted at Deadline 3 (REP3-059).

~~1.7.1.3~~1.7.1.4 The PVAs presented in section ~~1.6~~1.6 predicted that for ~~each~~all bar one SPA and species considered there would be no decrease in population size under any of the impact scenarios. The range-based scenarios were presented for common guillemot, northern gannet, great black-backed gull and razorbill as requested by the SNCBs. Common guillemot was also modelled within the PVAs, considering an alternative approach using the 70% displacement and 2% mortality. Black-legged kittiwake was ~~not assessed against the worst-case scenario (i.e. 70% displacement and 10% mortality) and a more pragmatic 30% displacement and 3% mortality was modelled within the PVAs.~~modelled within the PVAs assuming 30% displacement and 3% mortality, which is in line with NatureScot's guidance (NatureScot, 2023) and used in displacement assessments for offshore wind farm within Scottish waters (noting that NRW (A) and Natural England does not advise that displacement assessments are undertaken for kittiwake by English or Welsh projects as the risk is considered to low).

~~1.7.1.4~~ Following the PVAs, no AEoSI was predicted for each SPA and species and therefore the conclusions presented within HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010~~) remain valid.~~

1.7.1.5).

1□□□ R□□□r□□□□□□

NatureScot (2018). Interim Guidance on apportioning impacts from marine renewable developments to breeding seabird populations in SPAs. Available at: https://www.nature.scot/doc/interim-guidance-apportioning-impacts-marine-renewable-developments-breeding-seabird-populations

~~PVA modelling sheets~~PVA modelling sheets seabird populations in SPAs. Available at: https://www.nature.scot/doc/interim-guidance-apportioning-impacts-marine-renewable-developments-breeding-seabird-populations

Appendix A: PVA modelling parameters

A.1.1.1.1 Due to the number of PVAs run for this projects summary information and tables are presented below to provide the SNCBs with the information required to undertake a recreation of the PVA outputs. Individual PVA modelling sheets are available on request.

A.1.1.1.2 All PVAs were run using: Tool version 2, with R version 3.5.1, PVA package version: 4.18 (with UI version 1.7).

```
##                Package          Version
## popbio         "popbio"         "2.4.4"
## shiny          "shiny"          "1.1.0"
## shinyjs        "shinyjs"        "1.0"
## shinydashboard "shinydashboard" "0.7.1"
## shinyWidgets   "shinyWidgets"   "0.4.5"
## DT             "DT"             "0.5"
## plotly         "plotly"         "4.8.0"
## rmarkdown      "rmarkdown"      "1.10"
## dplyr          "dplyr"          "0.7.6"
## tidyr          "tidyr"          "0.8.1"
```

[illegible]

A.1.1.1.3 Each of the models were run using the following basic information:

This run had reference name "*[Varied for each model run]*".
PVA model run type: simplescenarios.
Model to use for environmental stochasticity: betagamma.
Model for density dependence: nodd.
Include demographic stochasticity in model?: Yes.
Number of simulations: 5000.
Random seed: 15.
Years for burn-in: 5.
Case study selected: None.

[illegible]

A.1.1.1.4 The population used within the PVAs is presented within the Mona Offshore Wind Project apportioning tables (section 1.5.1 for species considering for displacement (black-legged kittiwake, common guillemot, northern gannet and razorbill) and section 1.5.2 for species considered for collision (black-legged kittiwake, northern gannet and great black-backed gull)).

[illegible]

A.1.1.1.5 The basic demographic rates are presented within Table 1-90. The Applicant has used the input parameters for most species that are inbuilt to the PVA shiny app. The productivity was provided by the BTO and uses data from the seabird monitoring programme from 2010 to 2019.

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Productivity	Mean: 0.619 SD: 0.121	Mean: 0.583 SD: 0.075	Mean: 0.766 SD: 0.051	Mean: 1.016 SD: 0.125	Mean: 0.532 SD: 0.084
Adult survival rate	Mean: 0.854 SD: 0.077	Mean: 0.94 SD: 0.025	Mean: 0.922 SD: 0.019	Mean: 0.93 SD: 0.001	Mean: 0.895 SD: 0.067
Age class 0 to 1 survival rate	Mean: 0.79 SD: 0.001	Mean: 0.56 SD: 0.058	Mean: 0.42 SD: 0.084	0. Mean: 0.798 SD: 0.001	Mean: 0.794 SD: 0.001
Age class 1 to 2 survival rate	Mean: 0.854 SD: 0.077	Mean: 0.792 SD: 0.152	Mean: 0.852 SD: 0.032	Mean: 0.93 SD: 0.001	Mean: 0.794 SD: 0.001
Age class 2 to 3 survival rate	Mean: 0.854 SD: 0.077	Mean: 0.917 SD: 0.098	Mean: 0.908 SD: 0.026	Mean: 0.93 SD: 0.001	Mean: 0.895 SD: 0.067
Age class 3 to 4 survival rate	Mean: 0.854 SD: 0.077	Mean: 0.938 SD: 0.107	Mean: 0.91 SD: 0.026	Mean: 0.93 SD: 0.001	Mean: 0.895 SD: 0.067
Age class 4 to 5 survival rate	Mean: 0.854 SD: 0.077	Mean: 0.94 SD: 0.025	Mean: 0.922 SD: 0.019	Mean: 0.93 SD: 0.001	Mean: 0.895 SD: 0.067
Age class 5 to 6 survival rate	N/A	Mean: 0.94 SD: 0.025	N/A	N/A	N/A

[illegible]

A.1.1.1.6 The impacts for each site can be generated by dividing the in-combination impact (section 1.5.3 and summarised in Table 1-64) by the population presented within the Mona Offshore Wind Project apportioning tables (section 1.5.1 for species considering for displacement (black-legged kittiwake, common guillemot, northern gannet and razorbill) and section 1.5.2 for species considered for collision (black-legged kittiwake, northern gannet and great black-backed gull)).

A.1.1.1.7 For example the in-combination impact on great black-backed gull from Table 1-50 of 9.38 birds and the population at the Isles of Scilly (1802 birds in 2006) from Table 1-16 generates a decrease in survival of 0.005204529 (9.38/1802). All PVAs were run using nine decimal places if possible.

[illegible]

~~A.1.1.1.1~~A.1.1.1.8 All PVAs were run from 2030 to 2065, in line with the predicted lifetime of the Mona Offshore Wind Project.