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Volume 8 Additional Information

Appendix 6: Ornithology Additional Information Report (Caledonia South)

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Acronyms and Abbreviations

BTO	British Trust for Ornithology
CPGR	Counterfactual Population Growth Rate
CPS	Counterfactual Population Size
CRM	Collision Risk Modelling
EIAR	Environmental Impact Assessment Report
HRA	Habitats Regulations Appraisal
MD-LOT	Marine Directorate – Licensing Operations Team
MMFR	Mean Max Foraging Range
OECC	Offshore Export Cable Corridor
OWF	Offshore Wind Farm
PVA	Population Viability Analysis
RIAA	Report to Inform Appropriate Assessment
SD	Standard Deviation
SMP	Seabird Monitoring Programme
SNCB	Statutory Nature Conservation Body
SPA	Special Protection Area

1 Introduction

1.1.1.1 Since the submission of the consent applications for the Caledonia Offshore Wind Farm (OWF), specifically Caledonia South, the Marine Directorate – Licensing Operations Team (MD-LOT) requested supplementary information from Caledonia Offshore Wind Farm Ltd (the Applicant). The Request for Additional Information was requested in order to provide clarity on a number of queries in relation to assessments on offshore and intertidal ornithology. This document presents the supplementary information requested for Caledonia South.

1.1.1.2 Table 1-1 sets out the clarifications/supplementary information requested by MD-LOT via written response (dated 17 July 2025), based on NatureScot's representations (letter dated on 27 March 2025). The Applicant response is included within the table.

1.1.1.3 This report, therefore, provides all of the supplementary information requested by MD-LOT in relation to Caledonia South. All Applicant's responses to representation received from NatureScot (received on 27 March 2025 via email) are provided in Gap Analysis submitted to MD-LOT accompanying the Addendum package.

Table 1-1: Clarifications and supplementary information requested by MD-LOT, with corresponding NatureScot representations and Applicant responses.

Topic	MD-LOT Requirement	NatureScot Representation	Applicant Response
Cumulative assessments	*"Cumulative and in-combination assessments have not been conducted for Caledonia North or Caledonia South individually within the EIA and RIAA, these are required to be submitted. "*	*"Regarding the cumulative assessments, PVAs were not carried out for the Caledonia North or Caledonia South project alone scenarios cumulatively with other plans or projects. It is important to note that the magnitude of impact for Caledonia [North/South] would be lower comparative to the full Caledonia OWF. We agree with this logic. However, this approach means we cannot assess the cumulative impacts of Caledonia North or Caledonia South as standalone developments."*	Cumulative assessments have been undertaken for Caledonia South (excluding Caledonia North) (Section 3) and for Caledonia North (excluding Caledonia South) (Volume 8, Appendix 5: Ornithology Additional Information Report (Caledonia North)) as agreed in consultation with NatureScot and MD-LOT within a consultation meeting on 04 June 2024.

Topic	MD-LOT Requirement	NatureScot Representation	Applicant Response
Assessment of distributional responses during construction and decommissioning	*"A qualitative assessment for the cumulative assessment of distributional responses during construction and decommissioning for ornithology. This is required in line with the NatureScot representation dated 25 June 2025."*	*"This was raised in our advice dated 21st August 2024 in which we stated we would expect to see some consideration of displacement during construction: "There is no requirement for a quantitative assessment in the consideration of this issue however, we are content to consider additional years on the PVA as a stand-in for assessment for distributional responses during construction and decommissioning". However, there has been no cumulative assessment of distributional responses during construction or decommissioning within the EIA Report. The justification provided for this exclusion is at odds with the potential construction scenarios presented in the EIA Report, particularly the sequential scenario which we would not necessarily consider to be temporally limited. We request clarity regarding why our advice regarding the cumulative assessment of distributional responses during construction was not followed and advise this assessment should be undertaken."*	As discussed in consultation with NatureScot and MD-LOT within a consultation meeting on 04 June 2024, a qualitative cumulative assessment of potential distributional responses during construction and decommissioning phases is presented in Section 3.

Topic	MD-LOT Requirement	NatureScot Representation	Applicant Response
Habitats Regulations Appraisal (HRA) screening and apportioning	*"In relation to the Report to Inform Appropriate Assessment ("RIAA"), updated screening and apportioning, with subsequent consideration of the requirement for further Population Viability Analysis ("PVA") is required in line with NatureScot guidance."*	*"The Applicant has incorrectly used the geometric centre element of the apportioning methodology to rescreen the original list of designated sites and qualifying species that have been taken through into the RIAA."* *'"In the RIAA Part 3, section 9.1.1.4, it states "It is important to note that in order to calculate accurate at sea distance, Caledonia South is unable to be treated separately, as such distances are provided to the centre of the Caledonia OWF". Our understanding of this statement is that the same geometric centre distance has been applied to all three scenarios (North, South, Proposed Development (Offshore)), which would have implications for the apportioning and screening for all scenarios. We disagree with the approach taken and advise that Caledonia South and Caledonia North should be calculated individually."*	As discussed in consultation with NatureScot and MD-LOT within consultation meetings on 04 June 2025 and 07 August 2025, revised HRA screening has been undertaken using the nearest edge of the OWF to the nearest edge of the Special Protection Area (SPA)/Ramsar (closest distance around land). This has been undertaken separately for the Proposed Development (Offshore) (Volume 8, Appendix 7: Ornithology HRA Screening (Caledonia OWF)), Caledonia North (Volume 8, Appendix 8: Ornithology HRA Screening (Caledonia North)) and Caledonia South (Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South)). As discussed in consultation with NatureScot and MD-LOT within consultation meetings on 04 June 2025 and 07 August 2025 revised HRA apportionment has been undertaken using the geometric centre of the OWF to the geometric centre of the SPA/Ramsar (closest distance around land). This has been undertaken separately for Caledonia South (as outlined in Section 4 and detailed within Volume 8, Appendix 11: Ornithology Apportioning Technical Report (Caledonia North)), the Proposed Development (Offshore) (Volume 8, Appendix 10: Ornithology Apportioning Technical Report (Caledonia OWF)) and Caledonia North (Volume 8, Appendix 11: Ornithology Apportioning Technical Report (Caledonia North)).

Topic	MD-LOT Requirement	NatureScot Representation	Applicant Response
			Updated predicted impacts for distributional responses and collision as a result of the changes made to HRA screening and apportionment for Caledonia South alone and in-combination with other plans and projects during the operational and maintenance phase are presented in Section 5.
In Combination Assessment	*"Cumulative and in-combination assessments have not been conducted for Caledonia North or Caledonia South individually within the EIA and RIAA, these are required to be submitted. "*	*"One RIAA was submitted, covering Caledonia North (alone), Caledonia South (alone) and the Proposed Development (Offshore) (alone and in-combination with other plans and projects). We highlight that no in-combination assessment has been presented for Caledonia North or Caledonia South. As such we have been unable to draw conclusions on the in-combination assessment impacts for Caledonia North and Caledonia South as standalone proposals."*	In-combination assessments have been undertaken for Caledonia South (excluding Caledonia North) (Section 5) and for Caledonia North (excluding Caledonia South) (Volume 8, Appendix 5: Ornithology Additional Information Report (Caledonia North)) as agreed in consultation with NatureScot and MD-LOT within a consultation meeting on 04 June 2024. These updated assessments take into account changes made to HRA screening and apportionment.

Topic	MD-LOT Requirement	NatureScot Representation	Applicant Response
Population Viability Analysis (PVA)	*"In relation to the Report to Inform Appropriate Assessment ("RIAA"), updated screening and apportioning, with subsequent consideration of the requirement for further Population Viability Analysis ("PVA") is required in line with NatureScot guidance."* *"Cumulative and in-combination assessments have not been conducted for Caledonia North or Caledonia South individually within the EIA and RIAA, these are required to be submitted."* *"A PVA assessment is required with regards to collision risk for great black backed gull at Copinsay SPA and Hoy SPA, for both project alone and in combination with other projects."*	*"PVAs where the project alone or in-combination impacts meet or exceed a 0.02 percentage point decrease in annual adult survival, for the following scenarios: 1) Guidance approach high and low (e.g. for auks, 60% displacement; 3-5% mortality and 60% displacement; 1-3% mortality); 2) 35 years run-time and 3) Against most recent counts, i.e. SMP (Harris where relevant for gannet) rather than citation."* *"With regards to collision risk, we require further PVA assessment for great black-backed gull at Copinsay SPA and Hoy SPA, for both project alone and in-combination."*	Updated PVA has been undertaken for relevant populations due to the revised predicted impacts of Caledonia South as outlined in Section 6 and detailed within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South). Updated assessment conclusions are presented within Section 7. PVA has also been carried out for great black-backed gull at the Copinsay SPA as requested by NatureScot. As agreed in within a consultation meeting with NatureScot on 7 August 2025, PVA is not required for Hoy SPA (as the site is beyond Mean Max Foraging Range +1 Standard Deviation, both straight-line and around coast).
Nocturnal Activity Factor	*"With regards to stochastic Collision Risk Modelling (CRM), the Applicant has used 0 for the stochastic Nocturnal Activity Factor (NAF) for great skua without justification. NatureScot advised that the stochastic NAF for great skua should be 0.125 and request clarification of this approach and if necessary, a reassessment"*	*"With regards to stochastic Collision Risk Modelling (CRM), the Applicant has used 0 for the stochastic Nocturnal Activity Factor (NAF) for great skua without justification. We advised that the stochastic NAF for great skua should be 0.125. We request clarification of this approach and if necessary, a reassessment."*	As agreed in consultation with NatureScot and MD-LOT within a consultation meeting on 04 June 2024, NatureScot is content with the conclusions made in the assessment (using 0 for the stochastic Nocturnal Activity Factor), and no further action is required.

2 Consultation and Engagement

2.1.1.1 Following the submission of the Caledonia North and Caledonia South consent applications in November 2024 and the receipt of representations from key stakeholders in March 2025, two formal consultation meetings were held with MD-LOT and NatureScot on 04 June 2025 and 07 August 2025 in relation to the submitted ornithological assessment. The purpose of these meetings was to discuss NatureScot's representations in relation to offshore and intertidal ornithology Environmental Impact Assessment (EIA) and Habitats Regulations Appraisal (HRA) assessments undertaken (letter dated 27 March 2025). These meetings were undertaken prior to the formal receipt of the official Request for Additional Information from MD-LOT (received on 17 July 2025 via email).

2.1.1.2 Written feedback from NatureScot was requested and received by the Applicant following submission of the consent applications in November 2024, including (among other correspondence) advice on HRA screening (07 August 2025), apportionment (18 August 2025) and cumulative assessment (21 August 2025) (see Section 3 in Volume 8: Caledonia Offshore Wind Farm EIAR and HRA Addendum).

2.1.1.3 The Applicant's responses to representation received from NatureScot (letter dated 27 March 2025) are provided in the Gap Analysis submitted to MD-LOT and these points are addressed within this appendix as outlined in Section 1.

3 EIA Updates

3.1 Assessment of Distributional Responses During Construction and Decommissioning

3.1.1 Overview

3.1.1.1 In line with NatureScot's representations following submission (letter dated 27 March 2025), this Section presents the qualitative assessment of potential distributional responses during construction and decommissioning phases presented as part of the consent applications within the Environmental Impact Assessment Report (EIAR). It is noted that this has been extended to ensure that the assessment considers the potential cumulative impact of distributional responses during construction and decommissioning.

3.1.2 Construction

3.1.2.1 During these construction phase, the following effects have been screened in due to potential impacts on ornithological features:

- Distributional responses (Impacts 1 and 2):
  - Impact 1: Construction and associated vessel traffic associated with the Caledonia South Site (i.e., Array Area of Caledonia South); and
  - Impact 2: Construction and associated vessel traffic within the Caledonia South Offshore Export Cable Corridor (OECC).

Impact 1: Distributional Responses - Construction and Associated Vessel Traffic with the Caledonia South Site

3.1.2.2 Seabirds could be disturbed during the construction phase of Caledonia South by activities such as the installation of foundations, towers, blades, export cables and other infrastructure, as well as the movement of vessels. This disturbance may result in displacement of birds from the Caledonia South Site and other areas in which vessels associated with construction occur, driving a temporary habitat loss and potentially reducing the area available to birds for activities foraging and loafing.

3.1.2.3 The potential effects of distributional responses from construction will be limited spatially and temporally, primarily affecting birds foraging within the construction areas and vessel operation, with the extent of effects dependent on the activities taking place. The effects are considered to be reversable in nature, with birds returning to the area following the end of the activity taking place.

3.1.2.4 It is important to consider the potential for a cumulative effect for distributional responses from construction together with impacts of other relevant plans and projects. Due to the distance of Caledonia South from other plans and projects the localised nature of the potential impacts, it is concluded that there is no potential for a cumulative effect from this impact pathway. Projects within sufficiently close proximity to Caledonia South (such as Beatrice, Moray East and Moray West OWFs)) for potential cumulative effects to have already been built and commissioned. Therefore, the only potential for a cumulative effect would come from the two phases of the Proposed Development (Offshore) should Caledonia North and Caledonia South be constructed at the same time. However, this impact is already captured as the Proposed Development (Offshore) (Volume 8, Appendix 4: Ornithology Additional Information Report (Caledonia OWF)); as such, the conclusions above are expected to also be applicable for the potential for a cumulative effect for distributional responses from construction.

3.1.2.5 It is assumed that the level of impact during the decommissioning phase for distributional responses within the array area would be similar to that of the construction phase and thus the conclusions above are expected to also be applicable to the decommissioning phase.

Impact 2: Distributional Responses - Construction and Associated Vessel Traffic within the Caledonia South OECC

3.1.2.6 The intertidal ornithology assessment area ranges across the intertidal OECC and landfall area to the low water mark of the landfall site, which the onshore ecology section begins and is subsequently assessed.

3.1.2.7 During construction of Caledonia South, distributional responses due to vessel activity, and construction work in the Offshore Export Cable Corridor may occur for some seabirds and wildfowl. The offshore export cables will make landfall at Stake Ness on the Aberdeenshire coast, located to the west of Whitehills. A full description of the construction of Caledonia South is presented in Volume 1, Chapter 3: Proposed Development Description (Offshore) and Volume 1, Chapter 5; Proposed Development Phasing.

3.1.2.8 It is anticipated that the four offshore export cables will be pulled-in through a conduit prepared by Horizontal Directional Drilling (HDD). This trenchless technique avoids interaction with surface features and is used to install ducts through which cables can be pulled. HDD involves drilling through the ground from an onshore HDD site compound to a point offshore beyond the intertidal area, ideally with sufficient water depth for the cable laying vessel (CLV) to access. it is anticipated that the HDD punch-out location will be situated within the shallow subtidal area and the intertidal zone will be avoided (likely between 10 and 40m water depths).

3.1.2.9 Consequently, the main distributional response impact in the intertidal OECC will be from vessel disturbance at the HDD exit pits.

3.1.2.10 To assess the potential displacement during construction and decommissioning in the intertidal zone on bird populations, a 500m buffer was applied to the intertidal OECC area and landfall site. To assess the connectivity of species observed within the intertidal vantage point surveys, a 15km and 20km buffer was added to the 500m buffer for wildfowl and geese, while Mean Max Foraging Range (MMFR) + 1SD was added for seabirds.

3.1.2.11 A range of species were recorded in the intertidal surveys within the intertidal area of Stake Ness. The species found with the greatest peak counts were herring gull, oystercatcher and lapwing. The following 22 species observed in the intertidal area represented <1% of the Scottish population:

- Black-headed Gull (*Larus ridibundus*);
- Common Gull (*Larus canus*);
- Cormorant (*Phalacrocorax carbo*);
- Curlew (*Numenius arquata*);
- Dunlin (*Calidris alpina*);
- Eider (*Somateria mollissima*);
- Fulmar (*Fulmarus glacialis*);
- Goldeneye (*Bucephala clangula*);
- Great Black-backed Gull (*Larus marinus*);
- Guillemot (*Uria aalge*);
- Lapwing (*Vanellus vanellus*);
- Long-tailed Duck (*Clangula hyemalis*);
- Oystercatcher (*Haematopus ostralegus*);
- Peregrine (*Falco peregrinus*);
- Pink-footed Goose (*Anser brachyrhynchus*);
- Razorbill (*Alca torda*);
- Red-breasted Merganser (*Mergus serrator*);
- Redshank (*Tringa totanus*);
- Red-throated Diver (*Gavia stellata*);
- Ringed Plover (*Charadrius hiaticula*);
- Shag (*Phalacrocorax aristotelis*); and
- Turnstone (*Arenaria interpres*).

3.1.2.12 Herring gull were observed with peak count of 1,110 individuals over the winter period (October to March) between 2022 and 2024. The individuals observed during the survey period accounted for 1.11% of the Scottish population (Burnell *et al*., 2023[1]). Herring gull are considered to have a low risk to displacement impacts (Furness and Wade, 2012[2]; Furness *et al.,* 2013[3]; Bradbury *et al*., 2014[4]; SNCBs, Updated 2022[5]). As herring gull have a large foraging range (85.60km, MMFR + 1SD), the displacement impacts occurring from the localised construction and decommissioning activity are considered to be low. Furthermore, gull species are generally found aggregating around vessels rather than being displaced by them and therefore it is unlikely that impact with occur as a result of vessel activity in proximity to the HDD exit pit.

Magnitude of Impact

3.1.2.13 The impact will only be focused onto one area of the intertidal zone at a time (localised) and the maximum duration of installation of offshore export cables within the Caledonia South OECC will be six months. Work under the HDD exit pit will be carried out over a short period of time, with only 24 hours required to complete excavation of the exit pit and transition zone the activity. Therefore, all activity within the intertidal zone will be temporally limited and reversible in nature.

3.1.2.14 Based upon the limited potential for impacts on intertidal ornithological receptors, with works undertaken being temporally and spatially limited, the magnitude of potential impact is expected to be **Negligible** for Caledonia South.

Sensitivity of Receptors

3.1.2.15 The species listed above have the potential to be impacted by intertidal works, with varying levels of sensitivity to noise and/or visual disturbance. Although some species may be considered to have high sensitivity levels, the magnitude of impact is expected to remain low.

3.1.2.16 The sensitivity of offshore and intertidal receptors to potential disturbance and displacement impacts is expected to vary across species ranging from low (gull species) to high (diver species) (Furness and Wade, 2012[2]; Furness *et al*., 2013[3]; Bradbury *et al*., 2014[4]). Conservation value is also variable, ranging from low (cormorant) to high (common gull, great black-backed gull, red-throated diver). Therefore, as precautionary measure the overall assessment uses high sensitivity.

Significance of Effect

3.1.2.17 Taking the precautionary **High** sensitivity of intertidal ornithological receptors and the **Negligible** magnitude of disturbance from vehicles and vessels during construction, the impact is considered to be **Negligible and Not Significant in EIA terms** following the matrix approach applied within the EIAR (Table 3-1).

3.1.2.18 In terms of the consideration of a potential cumulative effect from construction and associated vessel traffic within the Caledonia South OECC. The conclusions of no potential cumulative effect as outlined above in 3.1.2.4 are expected to be applicable.

3.1.2.19 It is assumed that the level of impact during the decommissioning phase for distributional responses due to Caledonia South OECC related traffic would be similar to that of the construction phase and thus the conclusions above are expected to also be applicable to the decommissioning phase.

Table 3-1: Relationship between impact magnitude and receptor sensitivity to use as a guide to assign significance of effect.

Significance of Effect		Sensitivity of Receptor			
		Negligible	Low	Medium	High
Impact Magnitude	Negligible	Negligible	Negligible	Negligible	Negligible
	Low	Negligible	Negligible	Minor	Minor
	Medium	Negligible	Minor	Moderate	Moderate
	High	Negligible	Minor	Moderate	Major

3.1.3 Decommissioning

3.1.3.1 This Section presents the assessment of impacts arising from the decommissioning phase of Caledonia South.

3.1.3.2 During these phases, the following effects have been screened in for potential impacts to ornithological features:

- Distributional responses (Impacts 3 and 4):
  - Impact 3: Decommissioning and associated vessel traffic associated within the Caledonia South Site (i.e., Array Area of Caledonia South); and
  - Impact 4: Decommissioning and associated vessel traffic within the Caledonia South OECC.

Impact 3: Distributional Responses - Decommissioning and Associated Vessel Traffic within the Caledonia South Site

3.1.3.3 See Impact 1: Distributional Responses – Construction and associated vessel traffic within the Caledonia South Site in Section 3.1.2.

Impact 4: Distributional Responses - Decommissioning and Associated Vessel Traffic within the Caledonia South OECC

3.1.3.4 See Impact 2: Distributional Responses - Construction and associated vessel traffic within the Caledonia South OECC in Section 3.1.2.

3.2 Potential Cumulative Impacts

3.2.1 Background

3.2.1.1 In line with the Request for Additional Information from MD-LOT (received 17 July 2025) and NatureScot's representations following submission (letter dated 27 March 2025) cumulative assessments have been undertaken and are presented within this section for Caledonia South (excluding Caledonia North) as agreed in consultation with NatureScot and MD-LOT within a consultation meeting on 04 June 2024. Unless stated otherwise, the methodology for the assessments is aligned with the EIAR (see Volume 3, Chapter 6: Offshore Ornithology).

3.2.1.2 Cumulative impacts have been assessed for Caledonia South with other plans and projects for distributional responses, collision and distributional responses and collision combined, using the Applicant Approach and the Guidance Approach (Table 3-5 to Table 3-15). The assessment of cumulative impacts is based on the updated in-combination and cumulative totals for seabird species developed by the North East and East Ornithology Group (NEEOG) (updated from RoyalHaskoningDHV, 2024[6]). This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

3.2.1.3 One cumulative effect total is presented where applicable for features scoped in for cumulative assessment.

3.2.2 Definitions of Seasons

3.2.2.1 The seasonal definitions used within cumulative assessments for Caledonia South are based on those presented in NatureScot (2020[7]). The use of these defined seasons was agreed with NatureScot during pre-application consultation (04 June 2023), and are presented in Table 3-2 for seabird species included in the assessment.

Table 3-2: Defined seasons in the Scottish Marine Environment used in the assessment for key species (NatureScot, 2020[7]).

Species	Breeding Season	Non-breeding Season
Kittiwake	Mid-April to August	September to Early April
Great black-backed gull	April to August	September to March
Herring gull	April to August	September to March
Common guillemot	April to mid-August	Late August to March
Razorbill	April to mid-August	Late August to March
Puffin	April to Mid- August	Late August to March
Gannet	Mid-March to September	October to Early-March

3.2.3 Potential Effects and Regional Populations

3.2.3.1 The potential for distributional responses and collision to result in a cumulative effect during the operational and maintenance phase of Caledonia South relates to relevant features outlined within the EIAR (see Volume 4, Chapter 6: Offshore Ornithology).

3.2.3.2 Within this additional information report, updated impacts for distributional responses have been assessed using both the Applicant Approach, with evidence in support of this approach described in full in the Review of Relevant Evidence (Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence) and the Guidance Approach, which follows NatureScot Guidance Note 8 (NatureScot, 2023[8]). Table 3-3 summarises the two approaches taken.

Table 3-3: Displacement and mortality rates used for the NatureScot Guidance Approach and the Applicant Approach, for the assessment during the operational and maintenance phase of Caledonia South.

Species	Displacement Rate	Mortality Rate – Breeding Season	Mortality Rate – Non-breeding Season
Guidance Approach			
Guillemot, Razorbill and Puffin	60%	3% and 5%	1% and 3%
Kittiwake	30%	1% and 3%	1% and 3%
Gannet	70%	1% and 3%	1% and 3%
Applicant Approach			
Guillemot, Razorbill and Puffin	50%*	1%	1%
Kittiwake	Not Assessed	Not Assessed	Not Assessed
Gannet	70%	1%	1%
* The displacement rate presented for auks as the Applicant Approach is considered to be a maximum displacement rate as detailed and evidenced within Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence.			

3.2.3.3 Impacts for collision have been assessed using both the Applicant Approach and the Guidance Approach, which are described in full within Collision risk - Volume 7B, Appendix 6-3: Offshore Ornithology Collision Risk Modelling Technical Report.

3.2.3.4 Kittiwake have been screened into the assessment for collision risk as they are susceptible to collision due to their flight height distribution and behaviours. Kittiwake have also been assessed for distributional responses as requested by NatureScot within consultation; however, the Applicant remains of the position that kittiwake do not require assessment for distributional responses due to the evidence base detailed within Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence suggesting kittiwake show limited behavioural response to OWFs with respect to potential displacement. Distributional responses are assessed based on the birds within the Caledonia OWF Site and 2km buffer. A Guidance Approach only is presented for kittiwake based on a displacement rate of 30% and a 1-3% mortality rate for operational and maintenance phase distributional response impacts (as outlined in Table 3-3).

3.2.3.5 In line with the original submission, gannet and kittiwake have both been assessed for both distributional responses and collision risk. The suggestion within the NatureScot guidance is to use an additive approach (i.e., total predicted impact = total predicted collision rate + total predicted distributional responses mortality). These impacts are presented as combined impacts from distributional responses and collision. It is important to note that this approach does not consider that birds that have been displaced from the OWF are not at risk from collision. Such an approach could therefore lead to the overestimation of the combined impact of collision and distributional responses.

3.2.3.6 Where no differences exist between Guidance and Applicant Approaches to assessments these are presented under the Guidance Approach to avoid repetition. Further details regarding the differences between the Guidance and Applicant Approach for distributional response assessment is provided within Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence.

3.2.3.7 As defined in NatureScot (2023[9]) Guidance Note 6, the regional reference population for seabird species during the breeding season was calculated by summing the most recent colony counts from the SMP online database within MMFR +1S.D. of Caledonia South where available, as defined in Woodward *et al*. (2019[10]). For the non-breeding period, the relevant BDMPS and associated population estimates were taken from Furness (2015[11]). Where there are multiple non-breeding season population estimates, the largest population estimate was used. For guillemot, apportioning for the non-breeding season was based on the breeding population found within the MMFR + 1SD of Caledonia South. This approach was discussed and agreed with NatureScot during May 2023 consultation and this approach is in line with the application. Reference populations are presented within Table 3-4.

Table 3-4: Breeding and non-breeding regional reference populations for seabird species.

Species	Breeding Season Reference Population (Individuals)	Non-breeding Season Reference Population* (Adult and Immature) (Furness, 2015[11])*
Kittiwake	517,718	829,937 (autumn migration)
Great black-backed gull	-	91,399 (non-breeding)
Herring gull	-	466,511 (non-breeding)
Guillemot	853,701	853,701
Razorbill	157,054	591,874 (autumn migration)
Puffin	829,811	231,957 (non-breeding)
Gannet	816,232	456,298 (autumn migration)
* Where there are multiple non-breeding season population estimates, the largest population estimate was used. For guillemot, apportioning for the non-breeding season was based on the breeding population found within the MMFR + 1SD of Caledonia South. Note '-' highlights species where assessments are made for the non-breeding season only.		

3.2.4 Cumulative Impacts using Applicant Approach and Guidance Approach

3.2.4.1 Cumulative assessments using the Applicant Approach and Guidance Approach are presented for all projects where information is available (plus Caledonia South OWF) within Table 3-5 to Table 3-15.

3.2.4.2 Further assessment of the potential cumulative impacts from Caledonia South with other plans and projects has been undertaken using PVA for features and designated sites where impacts exceeded the threshold for assessment (0.02 percentage point change in adult survival rate) (in line with NatureScot Guidance Note 11; NatureScot, 2023[13]). To avoid repetition PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined below.

3.2.4.3 When considering the Guidance Approach, the annual total impact from distributional responses and collision combined for kittiwake under the upper 30%, 3% scenario (Table 3-7) predicts a maximum reduction in growth rate of 0.716% per annum (0.630% under the lower 30%, 1% scenario). The magnitude of such an effect would be **Medium**, leading to an overall significance of **Minor to Moderate at most, which is Significant in EIA terms.** Though as noted the upper range of mortality is considered unlikely in light of the evidence presented in Volume 8,

Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence, and the uncertainty that not all projects included cumulatively may not be taken forward and/or built out in full as per their worst-case scenario conditions assessed. In addition, there is no mitigation which the Project could implement to offset the potential effect to the point of non-significance. However, as detailed within Application Document 16: Caledonia South Habitats Regulations Appraisal Derogation Case, the Applicant has committed to compensate for predicted impacts on kittiwake. Such compensation will significantly reduce the Projects contribution to any cumulative effect, therefore no further action is required. As noted in paragraph 3.2.3.4, the Applicant remains of the position that kittiwake do not require assessment for distributional responses, therefore the Guidance Approach is considered highly precautionary, with the more realistic impact being collision only.

3.2.4.4 When considering the Guidance Approach, the annual total impact from distributional responses for guillemot under the upper 60%, 5%; 60%, 3% scenario (Table 3-8) predicts a maximum reduction in growth rate of 1.417% per annum (0.720% under the lower 60%, 3%; 60%, 1% scenario). The magnitude of such an effect would be **Medium**, leading to an overall significance of **Minor to Moderate at most.** Though as noted the upper range of mortality is considered unlikely in light of the evidence presented in Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence, and the uncertainty that not all projects include cumulatively may not be taken forward and/or built out in full as per their worst-case scenario conditions assessed. When considering the Applicant Approach (PVA outputs presented in Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), the overall effect of distributional responses during operation is considered to be **Minor and Not Significant in EIA terms**, such an impact is realistic (see Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence for detail of likely predicted effects). In addition, there is no mitigation which the Project could implement to offset the potential effect to the point of non-significance. However, as detailed within Application Document 16: Caledonia South Habitats Regulations Appraisal Derogation Case, the Applicant has committed to compensate for predicted impacts on guillemot. Such compensation will significantly reduce the Projects contribution to any cumulative effect, therefore no further action is required.

3.2.4.5 When considering the Guidance Approach, the annual total impact from distributional responses for razorbill under the upper 60%, 5%; 60%, 3% scenario (Table 3-9) predicts a maximum reduction in growth rate of 0.991% per annum (0.423% under the lower 60%, 3%; 60%, 1% scenario). Even under the upper Guidance Approach, the magnitude of such an effect would be **Low to Medium**, leading to an overall significance of **Minor**, which is **Not Significant in EIA terms**. This conclusion is in line with the cumulative assessment for the Proposed Development (Offshore) (Volume 2, Chapter 6: Offshore Ornithology).

3.2.4.6 When considering the Guidance Approach, the annual total impact from distributional responses for puffin under the upper 60%, 5%; 60%, 3% scenario (Table 3-10) predicts a maximum reduction in growth rate of 0.298% per annum (0.151% under the lower 60%, 3%; 60%, 1% scenario). Even under the upper Guidance Approach, the magnitude of such an effect would be **Low**, leading to an overall significance of **Minor**, which is **Not Significant in EIA terms**. This conclusion is in line with the cumulative assessment for the Proposed Development (Offshore) (Volume 2, Chapter 6: Offshore Ornithology).

3.2.4.7 When considering the Guidance Approach, the annual total impact from distributional responses and collision combined for gannet under the upper 70%, 3% scenario (Table 3-13) predicts a maximum reduction in growth rate of 0.435% per annum (0.290% under the lower 70%, 1% scenario). Even under the upper Guidance Approach, the magnitude of such an effect would be **Low**, leading to an overall significance of **Minor**, which is **Not Significant in EIA terms**. This conclusion is in line with the cumulative assessment for the Proposed Development (Offshore) (Volume 2, Chapter 6: Offshore Ornithology).

3.2.4.8 When considering the Guidance Approach, the annual total impact from collision for great black-backed gull (Table 3-14) predicts a maximum reduction in growth rate of 0.674% per annum. The magnitude of such an effect would be **Low**, leading to an overall significance of **Minor**, which is **Not Significant in EIA terms.** This conclusion is in line with the cumulative assessment for the Proposed Development (Offshore) (Volume 2, Chapter 6: Offshore Ornithology).

3.2.4.9 When considering the Guidance Approach, the annual total impact from collision for herring gull (Table 3-15) predicts a maximum reduction in growth rate of 0.134% per annum. The magnitude of such an effect would be **Low**, leading to an overall significance of **Minor**, which is **Not Significant in EIA terms**. This conclusion is in line with the cumulative assessment for the Proposed Development (Offshore) (Volume 2, Chapter 6: Offshore Ornithology).

Kittiwake

Table 3-5: Kittiwake cumulative impacts from distributional responses for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum) (Displacement Rate; Mortality Rate)*		Change in Average Survival Rate (% Point Change) (Displacement Rate; Mortality Rate)	
		30%; 1%	30%; 3%	30%; 1%	30%; 3%
Breeding season (Mid-April to August)	517,718	168.64	505.92	0.033	0.098
Non-breeding season (September to Early April)	829,937	136.16	408.48	0.016	0.049
Annual total	829,937	304.80	914.40	0.037	0.110
* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the North East and East Ornithology Group (NEEOG). This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.					

Table 3-6: Kittiwake cumulative impacts from collision for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum)*	Change in Average Survival Rate (% Point Change)
Breeding season (Mid-April to August)	517,718	2,095.86	0.405
Non-breeding season (September to Early April)	829,937	1,776.96	0.214
Annual total	829,937	3,872.80	0.467
* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.			

Table 3-7: Kittiwake cumulative impacts from distributional responses and collision combined for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum) (Displacement Rate; Mortality Rate)*		Change in Average Survival Rate (% Point Change) (Displacement Rate; Mortality Rate)	
		30%; 1%	30%; 3%	30%; 1%	30%; 3%
Breeding season (Mid-April to August)	517,718	2,370.90	2,708.18	0.458	0.523
Non-breeding season (September to Early April)	829,937	2,049.65	2,321.97	0.247	0.280
Annual total	829,937	4,420.53	5,030.13	0.533	0.606

* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

Guillemot

Table 3-8: Guillemot cumulative impacts from distributional responses for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach' and 'Applicant Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum) (Displacement Rate; Mortality Rate)*			Change in Average Survival Rate (% Point Change) (Displacement Rate; Mortality Rate)		
		50%; 1%	60%; 3%** 60%; 1%***	60%; 5%** 60%; 3%***	50%; 1%	60%; 3%** 60%; 1%***	60%; 5%** 60%; 3%***
Breeding season (April to mid-August)	853,701	1,174.73	4,229.05	7,048.41	0.138	0.495	0.826
Non-breeding season (Late August to March)	853,701	1,033.05	1,239.66	3,718.97	0.121	0.145	0.436
Annual total	853,701	2,207.78	5,468.70	10,767.37	0.259	0.641	1.261

* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

** Displacement rate of 60% and mortality rate of 3-5% considered for the breeding season.

*** Displacement rate of 60% and mortality rate of 1-3% considered for the non-breeding season.

Razorbill

Table 3-9: Razorbill cumulative impacts from distributional responses for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach' and 'Applicant Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum) (Displacement Rate; Mortality Rate)*			Change in Average Survival Rate (% Point Change) (Displacement Rate; Mortality Rate)		
		50%; 1%	60%; 3%** 60%; 1%***	60%; 5%** 60%; 3%***	50%; 1%	60%; 3%** 60%; 1%***	60%; 5%** 60%; 3%***
Breeding season (April to mid-August)	157,054	285.36	1,027.29	1,712.15	0.182	0.654	1.090
Non-breeding season (Late August to March)	591,874	885.39	1,062.47	3,187.42	0.150	0.180	0.539
Annual total	591,874	1,170.75	2,089.77	4,899.57	0.198	0.353	0.828

* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

** Displacement rate of 60% and mortality rate of 3-5% considered for the breeding season.

*** Displacement rate of 60% and mortality rate of 1-3% considered for the non-breeding season.

Puffin

Table 3-10: Puffin cumulative impacts from distributional responses for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach' and 'Applicant Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum) (Displacement Rate; Mortality Rate)*			Change in Average Survival Rate (% Point Change) (Displacement Rate; Mortality Rate)		
		50%; 1%	60%; 3%** 60%; 1%***	60%; 5%** 60%; 3%***	50%; 1%	60%; 3%** 60%; 1%***	60%; 5%** 60%; 3%***
Breeding season (April to mid-August)	829,811	225.31	823.62	1,372.70	0.027	0.099	0.165
Non-breeding season (Late August to March)	231,957	204.97	240.23	720.69	0.088	0.104	0.311
Annual total	829,811	430.28	1,063.85	2,093.39	0.052	0.128	0.252

* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

** Displacement rate of 60% and mortality rate of 3-5% considered for the breeding season.

*** Displacement rate of 60% and mortality rate of 1-3% considered for the non-breeding season.

Gannet

Table 3-11: Gannet cumulative impacts from distributional responses for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach' and 'Applicant Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum) (Displacement Rate; Mortality Rate)*		Change in Average Survival Rate (% Point Change) (Displacement Rate; Mortality Rate)	
		70%; 1%	70%; 3%	70%; 1%	70%; 3%
Breeding season (Mid-March to September)	816,232	235.74	707.23	0.029	0.087
Non-breeding season (October to Early-March)	456,298	264.13	792.38	0.058	0.174
Annual total	816,232	499.87	1,499.61	0.061	0.184

* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

Table 3-12: Gannet cumulative impacts from collision for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach' and 'Applicant Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum)*		Change in Average Survival Rate (% Point Change)	
		Applicant Approach to macro-avoidance	Guidance Approach to macro-avoidance	Applicant Approach to macro-avoidance	Guidance Approach to macro-avoidance
Breeding season (Mid-March to September)	816,232	402.89	1,301.04	0.049	0.159
Non-breeding season (October to Early-March)	456,298	187.41	187.41	0.041	0.041
Annual total	816,232	590.30	1,488.45	0.072	0.182

* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

Table 3-13: Gannet cumulative impacts from distributional responses and collision combined for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach' and 'Applicant Approach'.

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum) (Displacement Rate; Mortality Rate)*		Change in Average Survival Rate (% Point Change) (Displacement Rate; Mortality Rate)	
		30%; 1%	30%; 3%	30%; 1%	30%; 3%
Guidance Approach to macro-avoidance					
Breeding season (Mid-March to September)	816,232	1,544.08	2,015.57	0.189	0.247
Non-breeding season (October to Early-March)	456,298	451.54	979.80	0.099	0.215
Annual total	816,232	1,995.62	2,995.37	0.244	0.367
Applicant Approach to macro-avoidance					
Breeding season (Mid-March to September)	816,232	638.63	1,110.12	0.078	0.136
Non-breeding season (October to Early-March)	456,298	451.54	979.80	0.099	0.215
Annual total	816,232	1,090.17	2,089.91	0.134	0.256
* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.					

Great Black-Backed Gull

Table 3-14: Great black-backed gull cumulative impacts from collision for all projects where information is available (plus Caledonia South).

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum)*	Change in Average Survival Rate (% Point Change)
Non-breeding season (September to March)	91,399	475.72	0.520
Annual total	91,399	528.66	0.578
* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.			

Herring Gull

Table 3-15: Herring gull cumulative impacts from collision for all projects where information is available (plus Caledonia South).

Season	Regional Baseline Populations (Individuals)	Estimated Number of Mortalities (Individuals Per Annum)*	Change in Average Survival Rate (% Point Change)
Non-breeding season (September to March)	466,511	305.28	0.065
Annual total	466,511	522.18	0.112
* Estimated Number of Mortalities was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.			

4 HRA Apportionment

4.1 Background

4.1.1.1 Since the submission of the Caledonia North and Caledonia South consent applications in November 2024, updates requested by stakeholders have been made to HRA screening for Caledonia South (as outlined in Section 1 and detailed within Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South)).

4.1.1.2 In line with the Request for Additional Information from MD-LOT (17 July 2025) and NatureScot's representations following submission (27 March 2025) HRA Apportionment has been carried out based on the following updates (as outlined in Section 1 and detailed within Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South)):

- Apportionment has been undertaken to account for the updates made to HRA Screening for Caledonia South; and
- Apportionment has been undertaken separately for Caledonia South (Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South)), Caledonia North (Volume 8, Appendix 11: Ornithology Apportioning Technical Report (Caledonia North)) and the Proposed Development (Offshore) (Volume 8, Appendix 10: Ornithology Apportioning Technical Report (Caledonia OWF)) as requested and updated assessments are presented for Caledonia South (within Section 5), Caledonia North (Volume 8, Appendix 5: Ornithology Additional Information Report (Caledonia North) and the Proposed Development (Offshore) (Volume 8, Appendix 4: Ornithology Additional Information Report (Caledonia OWF).

4.2 Breeding Season Colony Counts

4.2.1.1 As described in Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South), the majority of breeding population size calculations are based on the colony counts from the British Trust for Ornithology (BTO) Seabird Monitoring Programme (SMP) database. Colony counts for East Caithness Cliffs SPA were derived from Burnell *et al*. (2023[1]) as requested by NatureScot within a consultation meeting regarding NatureScot representations following submission of the original application (04 June 2025).

4.2.1.2 For clarity, within Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South), sub-colonies have been grouped in order to provide transparency and to highlight the main SPA they contribute to (i.e. the individuals from the sub-colonies have been added together to provide SPA total individuals that are used within updated assessments). A breakdown of SPAs and the sub-colonies that feed into them, including the individuals contributing to these sites is presented within Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South). The years that the colony counts were recorded in are also provided.

4.3 Definitions of Seasons

4.3.1.1 The seasonal definitions used within updated HRA assessments for Caledonia South are based on those presented in Table 3-2.

4.4 HRA Apportionment Methodology and Results

4.4.1 Overview

4.4.1.1 Details of how updated apportionment of potential impacts to individual features of specific SPAs is calculated is presented within Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South). Table 4-1 to Table 4-7 present the final apportionment rates (Level of Apportionment % (apportionment of breeding adults, calculated by multiplying the proportional weight of the SPA with the total breeding adult percentage)) for each species associated with any specific designated site alongside species-specific apportioned abundance (Apportioned Abundance; breeding adults) and/or collision risk (Apportioned Collision Risk; breeding adults) apportioned to Caledonia South Site seasonally. For SPAs that have more than one sub-colony contributing to their overall number, the totals of the sub-colonies are added together to provide a single value for the apportionment towards the SPA. These represent updates to the tables and results in the consent application documents (Application Document 14: Caledonia South Report to Inform Appropriate Assessment (Part 3)).

4.4.2 CRM and Distributional Responses Apportioned Impacts

4.4.2.1 As no changes were requested for the collision risk modelling (CRM) or distributional responses assessment previously carried out for Caledonia South the updated apportionment methodology outlined above and updated final apportionment rates (Level of Apportionment % within Table 4-1 to Table 4-7) were used to apportion distributional response and collision mortalities outlined within the original submission (these documents also outline relevant methodologies for CRM and distributional responses assessment carried out for Caledonia South:

- Distributional responses - Volume 7B, Appendix 6-2: Offshore Ornithology Distributional Responses Technical Report; and
- Collision risk - Volume 7B, Appendix 6-3: Offshore Ornithology Collision Risk Modelling Technical Report.

4.4.2.2 Updated apportioned seasonal impacts for distributional responses (Apportioned Abundance; breeding adults) and CRM (Apportioned Collision Risk; breeding adults) are presented in Table 4-1 to Table 4-7 (updated seasonal breakdowns of the apportioned distributional responses mortalities is presented in Annex 1 – Seasonal Caledonia South Alone impacts). These represent updates to the tables and results in the Project's application documents (Application Document 14: Caledonia South Report to Inform Appropriate Assessment (Part 3)).

4.4.2.3 As agreed in consultation, a macro-avoidance rate of 70% has been applied to gannet densities during the non-breeding season (October – early-March). During the breeding season (mid-March – September), the monthly in-flight densities have not been adjusted for macro-avoidance. This approach has been presented as the Guidance Approach. The Applicant Approach has also been presented, with the macro-avoidance rate applied to the predicted mortalities in all months.

4.4.2.4 The Applicant has decided to include the Year 1 August count for puffin in the non-breeding season rather than during the breeding season (as discussed in a consultation meeting with NatureScot in May 2024). This is due to the Year 1 August abundance being considered to reflect migration rather than individuals present in the breeding season. This approach has been presented as the Applicant Approach (whereby the Year 1 August abundance has been incorporated as part of the non-breeding season). The Guidance Approach has also been presented, whereby the Year 1 August abundance for puffin has been incorporated as part of the breeding season.

Table 4-1: Kittiwake level of abundance and collision risk apportioned seasonally.

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)		Apportioned Collision Risk (Breeding Adults)	
	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)
East Caithness Cliffs SPA	18.96	5.84 (Autumn) 7.72 (Spring)	289.98	24.95	8.14	0.45
North Caithness Cliffs SPA	2.46	1.47 (Autumn) 1.94 (Spring)	37.56	6.27	1.05	0.11
Troup, Pennan and Lion's Heads SPA	13.67	2.15 (Autumn) 2.85 (Spring)	209.19	9.20	5.87	0.17
Copinsay SPA	0.09	0.10 (Autumn) 0.13 (Spring)	1.39	0.41	0.04	0.01
Hoy SPA	0.08	0.06 (Autumn 0.08 (Spring)	1.16	0.24	0.03	<0.01
Buchan Ness to Collieston Coast SPA	4.02	1.81 (Autumn) 2.40 (Spring)	61.42	7.74	1.72	0.14
Rousay SPA	0.06	0.26 (Autumn) 0.34 (Spring)	0.88	1.09	0.02	0.02

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)		Apportioned Collision Risk (Breeding Adults)	
	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)
Marwick Head SPA	0.19	0.08 (Autumn) 0.10 (Spring)	2.94	0.32	0.08	0.01
Calf of Eday SPA	0.02	0.11 (Autumn) 0.14 (Spring)	0.31	0.46	0.01	0.01
West Westray SPA	0.41	1.74 (Autumn) 2.30 (Spring %)	6.33	7.44	0.18	0.13
Fowlsheugh SPA	2.78	1.35 (Autumn) 1.78 (Spring)	42.48	5.76	1.19	0.10
Cape Wrath SPA	0.23	0.02 (Autumn) 0.03 (Spring)	3.58	0.11	0.10	<0.01
Fair Isle SPA	0.03	0.11 (Autumn) 0.15 (Spring)	0.47	0.48	0.01	0.01
Sumburgh Head SPA	0.01	0.03 (Autumn) 0.04 (Spring)	0.23	0.13	0.01	<0.01
Foula SPA	0.02	0.05 (Autumn) 0.06 (Spring)	0.32	0.20	0.01	<0.01

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)		Apportioned Collision Risk (Breeding Adults)	
	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)
North Rona and Sula Sgeir SPA	0.02	<0.01 (Autumn) <0.01 (Spring)	0.36	0.01	0.01	<0.01
Forth Islands SPA	0.50	0.45 (Autumn) 0.59 (Spring)	7.69	1.91	0.22	0.03
Noss SPA	<.0.01	0.07 (Autumn) 0.10 (Spring)	0.04	0.31	<0.01	0.01
St Abb's Head to Fast Castle SPA	0.33	0.49 (Autumn) 0.65 (Spring)	5.08	2.10	0.14	0.04
Hermaness, Saxa Vord and Valla Field SPA	<0.01	0.06 (Autumn) 0.07 (Spring)	0.05	0.24	<0.01	<0.01
Handa SPA	0.23	<0.01 (Autumn) 0.01 (Spring)	3.55	0.02	0.10	<0.01
Shiant Isles SPA	0.03	<0.01 (Autumn) <0.01 (Spring)	0.50	0.01	0.01	<0.01
Farne Islands SPA	-	0.50 (Autumn) 0.66 (Spring)	-	2.13	-	0.04

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)		Apportioned Collision Risk (Breeding Adults)	
	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)	Breeding Season (Mid-April to August)	Non-breeding Season (September to early-April)
Note, two weightings for apportioning non-breeding season kittiwake are provided for autumn migration (September to December), and spring migration (January to Early-April). The autumn weighting has been used to apportion the potential numbers of non-breeding kittiwake distributional response as the mean peak of this species was recorded during the autumn migration season. While both the Spring and Autumn weightings have been used to apportion collision mortalities during the non-breeding season.						

Table 4-2: Gannet level of abundance and collision risk apportioned seasonally.

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)		Apportioned Collision Risk (Breeding Adults)	
	Breeding Season (Mid-March to September)	Non-breeding Season (October to Early-March)	Breeding Season (Mid-March to September)	Non-breeding Season (October to Early-March)	Breeding Season (Mid-March to September)	Non-breeding Season (October to Early-March)
Sule Skerry and Sule Stack SPA	2.38	0.20 (Autumn) <0.01 (Spring)	16.87	0.37	0.07* / 0.25**	<0.01* / <0.01**
Fair Isle SPA	1.68	1.38 (Autumn) 2.21 (Spring)	11.92	2.52	0.05* / 0.18**	0.01* / 0.01**
North Rona and Sula Sgeir SPA	1.13	0.40 (Autumn) <0.01 (Spring)	8.02	0.74	0.04* / 0.12**	<0.01* / <0.01**
Forth Islands SPA	18.74	24.32 (Autumn) 31.27 (Spring)	132.57	44.50	0.59* / 1.96**	0.09* / 0.09**
Noss SPA	1.74	3.42 (Autumn) 5.51 (Spring %)	12.28	6.27	0.05* / 0.18**	0.01* / 0.01**
Hermaness, Saxa Vord and Valla Field SPA	1.54	8.54 (Autumn) 13.73 (Spring)	10.87	15.63	0.05* / 0.16**	0.03* / 0.03**
Flamborough and Filey Coast SPA	-	4.85 (Autumn) 6.23 (Spring)	-	8.87	-	0.02* / 0.02**

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)		Apportioned Collision Risk (Breeding Adults)	
	Breeding Season (Mid-March to September)	Non-breeding Season (October to Early-March)	Breeding Season (Mid-March to September)	Non-breeding Season (October to Early-March)	Breeding Season (Mid-March to September)	Non-breeding Season (October to Early-March)
Note, two weightings for apportioning non-breeding season gannet are provided for autumn migration (October to November), and spring migration (December to Early-March). The autumn weighting has been used to apportion the potential numbers of non-breeding gannet distributional response as the mean peak of this species was recorded during the autumn migration season. While both the Spring and Autumn weightings have been used to apportion collision mortalities during the non-breeding season. * The Applicant Approach has also been presented, with the macro-avoidance rate applied to the predicted mortalities in all months. ** It should be noted that as agreed in consultation a macro-avoidance rate of 70% has been applied to gannet densities during the non-breeding season. During the breeding season, the monthly in-flight densities have not been adjusted for macro-avoidance. This approach has been presented as the Guidance Approach.						

Table 4-3: Guillemot level of abundance apportioned seasonally.

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)	
	Breeding Season (April to Mid-August)	Non-breeding Season (Late-August to March)	Breeding Season (April to Mid-August)	Non-breeding Season (Late-August to March)
East Caithness Cliffs SPA	34.55	24.00	3,912.10	1,389.34
North Caithness Cliffs SPA	4.36	7.45	493.94	431.48
Troup, Pennan and Lion's Heads SPA	8.51	5.73	963.67	331.55
Copinsay SPA	0.06	0.16	6.70	9.11
Hoy SPA	0.66	1.96	74.41	113.56
Buchan Ness to Collieston Coast SPA	2.05	4.89	232.40	283.22
Rousay SPA	0.16	0.95	17.58	55.03
Marwick Head SPA	0.29	1.54	32.72	88.93
Calf of Eday SPA	0.15	0.89	17.29	51.43
West Westray SPA	0.74	5.24	83.45	303.12
Sule Skerry and Sule Stack SPA	0.20	1.71	22.65	99.24
Fair Isle SPA	0.28	2.94	32.00	170.33

Table 4-4: Razorbill level of abundance apportioned seasonally.

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)	
	Breeding Season (April to Mid-August)	Non-breeding Season (Late-August to March)	Breeding Season (April to Mid-August)	Non-breeding Season (Late-August to March)
East Caithness Cliffs SPA	35.64	4.22	388.08	33.92
North Caithness Cliffs SPA	3.87	0.55	42.10	4.38
Troup, Pennan and Lion's Heads SPA	8.02	0.59	87.34	4.73
West Westray SPA	0.26	0.18	2.88	1.42
Fair Isle SPA	0.15	0.29	1.58	2.36

Table 4-5: Puffin level of abundance apportioned seasonally.

Designated Site	Level of Apportionment (Breeding Adults) (%)		Apportioned Abundance (Breeding Adults)	
	Breeding Season (April to Mid-August)	Non-breeding Season (Late-August to March)	Breeding Season (April to Mid-August)	Non-breeding Season (Late-August to March)
North Caithness Cliffs SPA	2.01	0.13	10.33* / 24.28**	2.18* / 0.97**
Hoy SPA	0.38	0.45	1.94* / 4.57**	7.81* / 3.48**
Cape Wrath SPA	0.08	<0.01	0.42* / 0.98**	0.02* / 0.01**
Sule Skerry and Sule Stack SPA	10.25	0.05	52.70* / 123.86**	0.89* / 0.39**
Fair Isle SPA	2.40	1.38	12.35* / 29.03**	23.89* / 10.65**
Foula SPA	1.18	2.91	6.05* / 14.22**	50.21* / 22.38**
North Rona and Sula Sgeir SPA	0.26	<0.01	1.35* / 3.16**	0.08* / 0.04**
Forth Islands SPA	22.80	26.83	117.23* / 275.54**	462.93* / 206.31**
Noss SPA	0.05	0.10	0.24* / 0.58**	1.79* / 0.80**

Note, apportioned abundance is presented for the Applicant Approach and the Guidance Approach, respectively.

* It should be noted the Applicant has decided to include the Year 1 August count in the non-breeding season rather than during the breeding season. This is due to the Year 1 August abundance being considered to reflect migration rather than individuals present in the breeding season.

** The mean seasonal peaks for puffin have also been presented with the August count included in the breeding season as per the Guidance Approach.

Table 4-6: Great black-backed gull level of collision risk apportioned seasonally.

Designated Site	Level of Apportionment (Breeding Adults) (%) Non-breeding Season (September to March)	Apportioned Collision Risk (Breeding Adults) Non-breeding Season (September to March)
East Caithness Cliffs SPA	0.38	0.03
Copinsay SPA	0.48	0.04
Species assessed for the non-breeding season only, approach agreed with NatureScot via email on 07 August 2025.		

Table 4-7: Herring gull level of collision risk apportioned seasonally.

Designated Site	Level of Apportionment (Breeding Adults) (%) Non-breeding Season (September to March)	Apportioned Collision Risk (Breeding Adults) Non-breeding Season (September to March)
East Caithness Cliffs SPA	1.44	0.04
Buchan Ness to Collieston Coast SPA	1.32	<0.01
Troup, Pennan an' Lion's Heads SPA	0.68	0.02
Species assessed for the non-breeding season only, approach agreed with NatureScot via email on 07 August 2025.		

5 Assessment for Considering Population Level Consequences from Impacts of Collision and Distributional Responses

5.1 Overview

5.1.1.1 The potential for distributional responses to result in an Adverse Effect on Site Integrity (AEoSI) during the operational and maintenance phase of Caledonia South relates to relevant designates sites and features outlined within Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South). Details on how the predicted impacts have been apportioned to particular populations can be found in Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South).

5.1.1.2 Within this additional information report, updated impacts for distributional responses have been assessed using both the Applicant Approach, with evidence in support of this approach described in full in the Review of Relevant Evidence (Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence) and the Guidance Approach, which follows NatureScot Guidance Note 8 (NatureScot, 2023[12]). Table 3-3 summarises the two approaches taken.

5.1.1.3 Impacts for collision have been assessed using both the Applicant Approach and the Guidance Approach, which are described in full within Collision risk - Volume 7B, Appendix 6-3: Offshore Ornithology Collision Risk Modelling Technical Report.

5.1.1.4 Kittiwake have been screened into the assessment for collision risk as they are susceptible to collision due to their flight height distribution and behaviours. Kittiwake have also been assessed for distributional responses as requested by NatureScot within consultation; however, the Applicant remains of the position that kittiwake do not require assessment for distributional responses due to the evidence base detailed within Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence suggesting kittiwake show limited behavioural response to OWFs with respect to potential displacement. Distributional responses are assessed based on the birds within the Caledonia OWF and 2km buffer. A Guidance approach only is presented for kittiwake based on a displacement rate of 30% and a 1-3% mortality rate for operational and maintenance phase distributional response impacts (as outlined in Table 3-3).

5.1.1.5 In line with the original submission, gannet and kittiwake have both been assessed for both distributional responses and collision risk. The suggestion within the NatureScot guidance is to use an additive approach (i.e., total predicted impact = total predicted collision rate + total predicted distributional responses mortality). These impacts are presented as combined impacts from distributional responses and collision. It is important to note that this approach does not consider that birds that have been displaced from the OWF are not at risk from collision. Such an approach could therefore lead to the overestimation of the combined impact of collision and distributional responses.

5.1.1.6 Where no differences exist between Guidance and Applicant Approach's to assessments these are presented under the Guidance approach to avoid repetition. Further details regarding the differences between the Guidance and Applicant Approach for distributional response assessment is provided within Volume 8, Appendix 21: Offshore Ornithology Distributional Responses Technical Report – Review of Relevant Evidence.

5.2 Revised Assessment of Predicted Impacts to Sites and Features

5.2.1.1 In line with NatureScot's representations (received on 27 March 2025 via email) and the Request for Additional Information from MD-LOT (received on 17 July 2025 via email), predicted impacts for designated sites and features for Caledonia South alone have been reviewed following NatureScot Guidance Note 11 (NatureScot, 2023[13]), which states the guidance threshold recommended for use of PVA is a predicted change of 0.02% in the adult survival rate (i.e., change in survival rate percentage point change) of each species screened in for each designated site. Further to this, as agreed in consultation with NatureScot (consultation meetings dated 04 June 2025 and 07 August 2025) HRA-level PVA is only required to be re-run as part of assessment updates where the difference in the annual apportioned predicted adult mortality to an SPA annually between submission impacts and updated impacts are greater than 0.5 of a bird (including increases and decreases). When both thresholds are reached for significant metrics, they are shown in Table 5-1 to Table 5-6 (i.e., where scenarios are marked by a 'Y' in both column 'Threshold reached for undertaking PVA (≥0.02)' and column 'Impact change threshold reached for undertaking PVA (0.5 of a bird)*'.

5.3 Caledonia South Alone Impact

5.3.1 Summary

5.3.1.1 Updated impacts from Caledonia South alone are provided for distributional responses, collision and combined impacts for relevant species, using the Applicant Approach (Table 5-1 to Table 5-3) and the Guidance Approach (Table 5-4 to Table 5-6), to features of designates sites as listed in the Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South). The values for the annual apportioned predicted mortality from both distributional responses and collision for each feature and designated site were reassessed as stated in Section 4 (further details are presented within Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South)) and apportioned as outlined within tables presented in Section 4.4.2.

5.3.2 Caledonia South Alone Impacts Using Applicant Approach

Table 5-1: Caledonia South alone impacts from distributional responses when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)*
East Caithness Cliffs SPA							
Guillemot	6.1	26.51	199,966	12,197.90	0.013	N	N/A
Razorbill	10.5	2.11	40,373	4,239.15	0.005	N	N/A
North Caithness Cliffs SPA							
Guillemot	6.1	4.63	62,102	3,788.24	0.007	N	N/A
Razorbill	10.5	0.23	12,329	1,294.58	0.002	N	N/A
Puffin**	9.4	0.06	6,766	636.00	0.001	N	N/A
Troup, Pennan and Lion's Heads SPA							
Guillemot	6.1	6.48	47,719	2,910.84	0.014	N	N/A
Razorbill	10.5	0.46	8,801	924.11	0.005	N	N/A
Copinsay SPA							
Guillemot	6.1	0.08	1,312	80.02	0.006	N	N/A
Hoy SPA							
Guillemot	6.1	0.94	16,345	997.06	0.006	N	N/A
Puffin**	9.4	0.05	722	67.87	0.007	N	N/A
Buchan Ness to Collieston Coast SPA							
Guillemot	6.1	2.58	40,763	2,486.54	0.006	N	N/A
Rousay SPA							
Guillemot	6.1	0.36	7,921	483.17	0.005	N	N/A
Marwick Head SPA							
Guillemot	6.1	0.61	12,800	780.78	0.005	N	N/A
Calf of Eday SPA							
Guillemot	6.1	0.34	7,402	451.53	0.005	N	N/A
West Westray SPA							
Guillemot	6.1	1.93	43,035	2,625.14	0.004	N	N/A
Razorbill	10.5	0.02	3,103	325.86	0.001	N	N/A
Cape Wrath SPA							
Puffin**	9.4	<0.01	428	40.23	0.001	N	N/A

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)*
Sule Skerry and Sule Stack SPA							
Puffin**	9.4	0.27	95,484	8,975.50	<0.001	N	N/A
Gannet	8.1	0.12	15,648	1,267.49	0.001	N	N/A
Guillemot	6.1	0.61	14,284	871.32	0.004	N	N/A
Fair Isle SPA							
Razorbill	10.5	0.02	2,580	270.90	0.001	N	N/A
Puffin**	9.4	0.18	13,332	1,253.21	0.001	N	N/A
Gannet	8.1	0.10	11,184	905.90	0.001	N	N/A
Guillemot	6.1	1.01	24,515	1,495.42	0.004	N	N/A
Foula SPA							
Puffin**	9.4	0.28	12,702	1,193.99	0.002	N	N/A
North Rona and Sula Sgeir SPA							
Puffin**	9.4	0.01	5,668	532.79	<0.001	N	N/A
Gannet	8.1	0.06	18,990	1,538.19	<0.001	N	N/A
Forth Islands SPA							
Gannet	8.1	1.24	162,000	13,122.00	0.001	N	N/A
Puffin**	9.4	2.90	117,960	11,088.24	0.002	N	N/A
Noss SPA							
Puffin**	9.4	0.01	1,194	112.24	0.001	N	N/A
Gannet	8.1	0.13	24,670	1,998.27	0.001	N	N/A
Hermaness, Saxa Vord and Valla Field SPA							
Gannet	8.1	0.19	39,606	3,208.09	<0.001	N	N/A
Flamborough and Filey Coast SPA							
Gannet***	8.1	0.06	31,588	2,558.63	<0.001	N	N/A

* As agreed in consultation with NatureScot (consultation meetings dated 04 June 2025 and 7 August 2025 and via email on 18 August 2025) HRA-level PVA is only required to be re-run as part of assessment updates where the difference in the annual apportioned predicted mortality to an SPA between submission impacts and updated impacts are greater than 0.5 of a bird (including increases and decreases).

** It should be noted that the Applicant has decided to include the Year 1 August count in the non-breeding season rather than during the breeding season. This is due to the Year 1 August abundance from the baseline DAS being considered to reflect migration rather than individuals present in the breeding season.

*** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, annual apportioned predicted mortalities presented are for the non-breeding season only.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and the impact change threshold is reached for undertaking PVA (changes of 0.5 of a bird; marked by Y in the table) indicate the sites and features taken through for PVA (i.e. where both columns are marked with a Y). Where the threshold is not reached for undertaking PVA (≤0.02; marked as N in the table) the impact change threshold is marked as N/A as no PVA is required for these scenarios.

Table 5-2: Caledonia South alone impacts from collision when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)*
Sule Skerry and Sule Stack SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.08	15,648	1,267.49	<0.001	N	N/A
Fair Isle SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.06	11,184	905.90	0.001	N	N/A
North Rona and Sula Sgeir SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.04	18,990	1,538.19	<0.001	N	N/A
Forth Islands SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.68	162,000	13,122.00	<0.001	N	N/A
Noss SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.07	24,670	1,998.27	<0.001	N	N/A
Hermaness, Saxa Vord and Valla Field SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.08	39,606	3,208.09	<0.001	N	N/A
Flamborough and Filey Coast SPA							
Gannet (Applicant Approach to macro-avoidance)**	8.1	0.02	31,588	2,558.63	<0.001	N	N/A

* As agreed in consultation with NatureScot (consultation meetings dated 04 June 2025 and 07 August 2025 and via email on 18 August 2025) HRA-level PVA is only required to be re-run as part of assessment updates where the difference in the annual apportioned predicted mortality to an SPA between submission impacts and updated impacts are greater than 0.5 of a bird (including increases and decreases).

** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, annual apportioned predicted mortalities presented are for the non-breeding season only.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and the impact change threshold is reached for undertaking PVA (changes of 0.5 of a bird; marked by Y in the table) indicate the sites and features taken through for PVA (i.e., where both columns are marked with a Y). Where the threshold is not reached for undertaking PVA (≤0.02; marked as N in the table) the impact change threshold is marked as N/A as no PVA is required for these scenarios.

Table 5-3: Caledonia South alone impacts from distributional responses and collision combined when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)*
Sule Skerry and Sule Stack SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.20	15,648	1,267.49	0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.37	15,648	1,267.49	0.002	N	N/A
Fair Isle SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.16	11,184	905.90	0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.28	11,184	905.90	0.003	N	N/A
North Rona and Sula Sgeir SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.10	18,990	1,538.19	0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.18	18,990	1,538.19	0.001	N	N/A
Forth Islands SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	1.92	162,000	13,122.00	0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	3.29	162,000	13,122.00	0.002	N	N/A
Noss SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.20	24,670	1,998.27	0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.32	24,670	1,998.27	0.001	N	N/A
Hermaness, Saxa Vord and Valla Field SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.27	39,606	3,208.09	0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.38	39,606	3,208.09	0.001	N	N/A
Flamborough and Filey Coast SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.08	31,588	2,558.63	<0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)**	8.1	0.08	31,588	2,558.63	<0.001	N	N/A

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)*
* As agreed in consultation with NatureScot (consultation meetings dated 04 June 2025 and 07 August 2025 and via email on 18 August 2025) HRA-level PVA is only required to be re-run as part of assessment updates where the difference in the annual apportioned predicted mortality to an SPA between submission impacts and updated impacts are greater than 0.5 of a bird (including increases and decreases). ** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, annual apportioned predicted mortalities presented are for the non-breeding season only. Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and the impact change threshold is reached for undertaking PVA (changes of 0.5 of a bird; marked by Y in the table) indicate the sites and features taken through for PVA (i.e., where both columns are marked with a Y). Where the threshold is not reached for undertaking PVA (≤0.02; marked as N in the table) the impact change threshold is marked as N/A as no PVA is required for these scenarios.							

5.3.3 Caledonia South Alone Impacts Using the Guidance Approach

Table 5-4: Project alone impacts for Caledonia South from distributional responses when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
East Caithness Cliffs SPA							
Kittiwake	14.6	0.94 - 2.83	48,958	7,147.87	0.002 - 0.006	N	N/A
Guillemot	6.1	78.75 - 142.37 (89.19 – 161.75)	199,966	12,197.90	0.039 - 0.071	Y	Y
Razorbill	10.5	7.19 - 12.25 (7.32 – 12.47)	40,373	4,239.15	0.018 - 0.030	Y	N
North Caithness Cliffs SPA							
Kittiwake	14.6	0.13 - 0.39	18,608	2,716.77	0.001 - 0.002	N	N/A
Guillemot	6.1	11.48 - 22.58 (11.92 – 23.96)	62,102	3,788.24	0.018 - 0.036	Y	Y
Razorbill	10.5	0.78 -1.34	12,329	1,294.58	0.006 - 0.011	N	N/A
Puffin***	9.4	0.44 - 0.75	6,766	636.00	0.007 - 0.011	N	N/A
Troup, Pennan and Lion's Heads SPA							
Kittiwake	14.6	0.66 - 1.97	27,344	3,992.22	0.002 - 0.007	N	N/A
Guillemot	6.1	19.34 - 34.88 (13.41 – 25.48)	47,719	2,910.84	0.041 - 0.073	Y	Y
Razorbill	10.5	1.60 - 2.71 (1.19 – 2.02)	8,801	924.11	0.018 - 0.031	Y	Y
Copinsay SPA							
Kittiwake	14.6	0.01 - 0.02	670	97.82	0.001 - 0.002	N	N/A
Guillemot	6.1	0.18 - 0.37 (1.58 – 3.35)	1,312	80.02	0.013 - 0.028	Y	Y
Hoy SPA							
Kittiwake	14.6	<0.01 - 0.01	608	88.77	0.001 - 0.002	N	N/A
Guillemot	6.1	2.02 - 4.28 (2.17 – 4.69)	16,345	997.06	0.012 - 0.026	Y	N
Puffin***	9.4	0.10 - 0.20 (0.10 – 0.19)	722	67.87	0.014 - 0.028	Y	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
Buchan Ness to Collieston Coast SPA							
Kittiwake	14.6	0.21 - 0.62	27,094	3,955.72	0.001 - 0.002	N	N/A
Guillemot	6.1	5.88 - 12.07 (Not assessed previously)	40,763	2,486.54	0.014 - 0.030	Y	Y
Rousay SPA							
Kittiwake	14.6	0.01 - 0.02	962	140.45	0.001 - 0.002	N	N/A
Guillemot	6.1	0.65 - 1.52	7,921	483.17	0.008 - 0.019	N	N/A
Marwick Head SPA							
Kittiwake	14.6	0.01 - 0.03	2,878	420.19	<0.001 - 0.001	N	N/A
Guillemot	6.1	1.12 - 2.58 (1.20 – 2.85)	12,800	780.78	0.009 - 0.020	Y	N
Calf of Eday SPA							
Kittiwake	14.6	<0.01 - 0.01	324	47.30	0.001 - 0.002	N	N/A
Guillemot	6.1	0.62 - 1.44 (0.67 – 1.59)	7,402	451.53	0.008 - 0.020	Y	N
West Westray SPA							
Kittiwake	14.6	0.04 - 0.12	8,004	1,168.58	0.001 - 0.002	N	N/A
Guillemot	6.1	3.32 - 7.96	43,035	2,625.14	0.008 - 0.018	N	N/A
Razorbill	10.5	0.06 - 0.11	3,103	325.86	0.002 - 0.004	N	N/A
Fowlsheugh SPA							
Kittiwake	14.6	0.14 - 0.43	40,156	5,862.78	<0.001 - 0.001	N	N/A
Cape Wrath SPA							
Kittiwake	14.6	0.01 - 0.03	6,656	971.78	<0.001	N	N/A
Puffin***	9.4	0.02 - 0.03	428	40.23	0.004 - 0.007	N	N/A
Sule Skerry and Sule Stack SPA							
Puffin***	9.4	2.23 - 3.72	95,484	8,975.50	0.002 - 0.004	N	N/A
Gannet	8.1	0.12 - 0.36	15,648	1,267.49	0.001 - 0.002	N	N/A
Guillemot	6.1	1.00 - 2.47	14,284	871.32	0.007 - 0.017	N	N/A

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
Fair Isle SPA							
Kittiwake	14.6	<0.01 - 0.01	896	130.82	<0.001 - 0.001	N	N/A
Razorbill	10.5	0.04 - 0.09	2,580	270.90	0.002 - 0.003	N	N/A
Puffin***	9.4	0.59 - 1.06	13,332	1,253.21	0.004 - 0.008	N	N/A
Gannet	8.1	0.10 - 0.30	11,184	905.90	0.001 - 0.003	N	N/A
Guillemot	6.1	1.60 - 4.03	24,515	1,495.42	0.007 - 0.016	N	N/A
Sumburgh Head SPA							
Kittiwake	14.6	<0.01	691	100.89	<0.001	N	N/A
Foula SPA							
Kittiwake	14.6	<0.01	1,193	174.18	<0.001	N	N/A
Puffin***	9.4	0.39 - 0.83	12,702	1,193.99	0.003 - 0.007	N	N/A
North Rona and Sula Sgeir SPA							
Kittiwake	14.6	<0.01	1,424	207.90	<0.001	N	N/A
Puffin***	9.4	0.06 - 0.10	5,668	532.79	0.001 - 0.002	N	N/A
Gannet	8.1	0.06 - 0.18	18,990	1,538.19	<0.001 - 0.001	N	N/A
Forth Islands SPA							
Kittiwake	14.6	0.03 - 0.09	14,216	2,075.54	<0.001 - 0.001	N	N/A
Gannet	8.1	1.24 - 3.72	162,000	13,122.00	0.001 - 0.002	N	N/A
Puffin***	9.4	6.20 - 11.98	117,960	11,088.24	0.005 - 0.010	N	N/A
Noss SPA							
Kittiwake	14.6	<0.01	154	22.48	0.001 - 0.002	N	N/A
Puffin***	9.4	0.02 - 0.03	1,194	112.24	0.001 - 0.003	N	N/A
Gannet	8.1	0.13 - 0.39	2,4670	1,998.27	0.001 - 0.002	N	N/A
St Abb's Head to Fast Castle SPA							
Kittiwake	14.6	0.02 - 0.06	11,992	1,750.83	<0.001 - 0.001	N	N/A
Hermaness, Saxa Vord and Valla Field SPA							
Kittiwake	14.6	<0.01	378	55.19	<0.001 - 0.001	N	N/A
Gannet	8.1	0.19 - 0.56	39,606	3,208.09	<0.001 - 0.001	N	N/A
Handa SPA							
Kittiwake	14.6	0.01 - 0.03	9,178	1,339.99	<0.001	N	N/A

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
Shiant Isles SPA							
Kittiwake	14.6	<0.01	2,318	338.43	<0.001	N	N/A
Farne Islands SPA							
Kittiwake****	14.6	0.01 - 0.02	5,790	845.34	<0.001	N	N/A
Flamborough and Filey Coast SPA							
Gannet****	8.1	0.06 - 0.19	31,588	2,558.63	<0.001 - 0.001	N	N/A

* Values presented in brackets present the annual apportioned predicted mortality for Caledonia South submitted at application. These values are only presented for scenarios where the threshold is reached for undertaking PVA.

** As agreed in consultation with NatureScot (consultation meetings dated 04 June 2025 and 07 August 2025 and via email on 18 August 2025) HRA-level PVA is only required to be re-run as part of assessment updates where the difference in the annual apportioned predicted mortality to an SPA between submission impacts and updated impacts are greater than 0.5 of a bird (including increases and decreases).

*** The mean seasonal peaks for puffin have been presented with the August count included in the breeding season as per the Guidance Approach, see Table 4-5.

**** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, annual apportioned predicted mortalities presented are for the non-breeding season only.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and the impact change threshold is reached for undertaking PVA (changes of 0.5 of a bird; marked by Y in the table) indicate the sites and features taken through for PVA (i.e. where both columns are marked with a Y). Where the threshold is not reached for undertaking PVA (≤0.02; marked as N in the table) the impact change threshold is marked as N/A as no PVA is required for these scenarios. Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.

Table 5-5: Caledonia South alone impacts from collision when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
East Caithness Cliffs SPA							
Kittiwake	14.6	8.59	48,958	7,147.87	0.018	N	N/A
Great black-backed gull***	11.5	0.03	532	61.18	0.006	N	N/A
Herring gull***	16.6	0.04	6,600	1,095.60	0.001	N	N/A
North Caithness Cliffs SPA							
Kittiwake	14.6	1.17	18,608	2,716.77	0.006	N	N/A
Troup, Pennan and Lion's Heads SPA							
Kittiwake	14.6	6.04 (4.48)	27,344	3,992.22	0.022	Y	Y
Herring gull***	16.6	0.02	1,108	183.93	0.002	N	N/A
Copinsay SPA							
Kittiwake	14.6	0.05	670	97.82	0.007	N	N/A
Great black-backed gull***	11.5	0.04 (0.04)	97	11.16	0.038	Y	N (requested by NatureScot)
Hoy SPA							
Kittiwake	14.6	0.04	608	88.77	0.006	N	N/A
Buchan Ness to Collieston Coast SPA							
Kittiwake	14.6	1.86	27,094	3,955.72	0.007	N	N/A
Herring gull***	16.6	<0.01	4,536	752.98	<0.001	N	N/A
Rousay SPA							
Kittiwake	14.6	0.04	962	140.45	0.005	N	N/A
Marwick Head SPA							
Kittiwake	14.6	0.09	2,878	420.19	0.003	N	N/A
Calf of Eday SPA							
Kittiwake	14.6	0.02	324	47.30	0.005	N	N/A
West Westray SPA							
Kittiwake	14.6	0.31	8,004	1,168.58	0.004	N	N/A
Fowlsheugh SPA							
Kittiwake	14.6	1.30	40,156	5,862.78	0.003	N	N/A
Cape Wrath SPA							
Kittiwake	14.6	0.10	6,656	971.78	0.002	N	N/A

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
Sule Skerry and Sule Stack SPA							
Gannet (Guidance Approach to macro-avoidance)	8.1	0.25	15,648	1,267.49	0.002	N	N/A
Fair Isle SPA							
Kittiwake	14.6	0.02	896	130.82	0.002	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.18	11,184	905.90	0.002	N	N/A
Sumburgh Head SPA							
Kittiwake	14.6	0.01	691	100.89	0.001	N	N/A
Foula SPA							
Kittiwake	14.6	0.01	1,193	174.18	0.001	N	N/A
North Rona and Sula Sgeir SPA							
Kittiwake	14.6	0.01	1,424	207.90	0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.12	18,990	1,538.19	0.001	N	N/A
Forth Islands SPA							
Kittiwake	14.6	0.25	14,216	2,075.54	0.002	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	2.05	162,000	13,122.00	0.001	N	N/A
Noss SPA							
Kittiwake	14.6	0.01	154	22.48	0.004	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.19	24,670	1,998.27	0.001	N	N/A
St Abb's Head to Fast Castle SPA							
Kittiwake	14.6	0.18	11,992	1,750.83	0.002	N	N/A
Hermaness, Saxa Vord and Valla Field SPA							
Kittiwake	14.6	0.01	378	55.19	0.002	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.19	39,606	3,208.09	<0.001	N	N/A
Handa SPA							
Kittiwake	14.6	0.10	9,178	1,339.99	0.001	N	N/A
Shiant Isles SPA							
Kittiwake	14.6	0.01	2,318	338.43	0.001	N	N/A

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
Farne Islands SPA							
Kittiwake***	14.6	0.04	5,790	845.34	0.001	N	N/A
Flamborough and Filey Coast SPA							
Gannet (Guidance Approach to macro-avoidance)***	8.1	0.02	31,588	2,558.63	<0.001	N	N/A

* Values presented in brackets present the annual apportioned predicted mortality for Caledonia South submitted at application. These values are only presented for scenarios where the threshold is reached for undertaking PVA.

** As agreed in consultation with NatureScot (consultation meetings dated 04 June 2025 and 07 August 2025 and via email on 18 August 2025) HRA-level PVA is only required to be re-run as part of assessment updates where the difference in the annual apportioned predicted mortality to an SPA between submission impacts and updated impacts are greater than 0.5 of a bird (including increases and decreases).

*** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, annual apportioned predicted mortalities presented are for the non-breeding season only.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and the impact change threshold is reached for undertaking PVA (changes of 0.5 of a bird; marked by Y in the table) indicate the sites and features taken through for PVA (i.e. where both columns are marked with a Y). Where the threshold is not reached for undertaking PVA (≤0.02; marked as N in the table) the impact change threshold is marked as N/A as no PVA is required for these scenarios. Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.

Table 5-6: Caledonia South alone impacts from distributional responses and collision combined when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
East Caithness Cliffs SPA							
Kittiwake	14.6	9.54 - 11.42 (12.16 – 14.55)	48,958	7,147.87	0.019 - 0.023	Y	Y
North Caithness Cliffs SPA							
Kittiwake	14.6	1.30 - 1.56	18,608	2,716.77	0.007 - 0.008	N	N/A
Troup, Pennan and Lion's Heads SPA							
Kittiwake	14.6	6.69 - 8.00 (4.96 – 5.94)	27,344	3,992.22	0.024 - 0.029	Y	Y
Copinsay SPA							
Kittiwake	14.6	0.05 - 0.06	670	97.82	0.008 - 0.009	N	N/A
Hoy SPA							
Kittiwake	14.6	0.04 - 0.05	608	88.77	0.007 - 0.008	N	N/A
Buchan Ness to Collieston Coast SPA							
Kittiwake	14.6	2.07 - 2.49	27,094	3,955.72	0.008 - 0.009	N	N/A
Rousay SPA							
Kittiwake	14.6	0.05 - 0.06	962	140.45	0.005 - 0.006	N	N/A
Marwick Head SPA							
Kittiwake	14.6	0.10 - 0.12	2,878	420.19	0.003 - 0.004	N	N/A
Calf of Eday SPA							
Kittiwake	14.6	0.02	324	47.30	0.006 - 0.007	N	N/A
West Westray SPA							
Kittiwake	14.6	0.35 - 0.44	8,004	1,168.58	0.004 - 0.005	N	N/A
Fowlsheugh SPA							
Kittiwake	14.6	1.44 - 1.73	40,156	5,862.78	0.004	N	N/A
Cape Wrath SPA							
Kittiwake	14.6	0.11 - 0.14	6,656	971.78	0.002	N	N/A
Sule Skerry and Sule Stack SPA							
Gannet (Applicant Approach to macro-avoidance)	8.1	0.20 – 0.44	15,648	1,267.49	0.001 – 0.003	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.37 - 0.61	15,648	1,267.49	0.002 - 0.004	N	N/A

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
Fair Isle SPA							
Kittiwake	14.6	0.02 - 0.03	896	130.82	0.003	N	N/A
Gannet (Applicant Approach to macro-avoidance)	8.1	0.16 – 0.36	11,184	905.90	0.001 – 0.003	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.28 - 0.48	11,184	905.90	0.003 - 0.004	N	N/A
Sumburgh Head SPA							
Kittiwake	14.6	0.01	691	100.89	0.001 - 0.002	N	N/A
Foula SPA							
Kittiwake	14.6	0.01 - 0.02	1,193	174.18	0.001	N	N/A
North Rona and Sula Sgeir SPA							
Kittiwake	14.6	0.01	1,424	207.90	0.001	N	N/A
Gannet (Applicant Approach to macro-avoidance)	8.1	0.10 – 0.22	18,990	1,538.19	0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.18 - 0.30	18,990	1,538.19	0.001 - 0.002	N	N/A
Forth Islands SPA							
Kittiwake	14.6	0.28 - 0.34	14,216	2,075.54	0.002	N	N/A
Gannet (Applicant Approach to macro-avoidance)	8.1	1.92 – 4.40	162,000	13,122.00	0.001 – 0.003	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	3.29 - 5.77	162,000	13,122.00	0.002 - 0.004	N	N/A
Noss SPA							
Kittiwake	14.6	0.01	154	22.48	0.005 – 0.006	N	N/A
Gannet (Applicant Approach to macro-avoidance)	8.1	0.20 – 0.46	24,670	1,998.27	0.001 – 0.002	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.32 - 0.58	24,670	1,998.27	0.001 – 0.002	N	N/A
St Abb's Head to Fast Castle SPA							
Kittiwake	14.6	0.20 - 0.25	11,992	1,750.83	0.002	N	N/A
Hermaness, Saxa Vord and Valla Field SPA							
Kittiwake	14.6	0.01	378	55.19	0.003	N	N/A
Gannet (Applicant Approach to macro-avoidance)	8.1	0.27 – 0.64	39,606	3,208.09	0.001 – 0.002	N	N/A
Gannet (Guidance Approach to macro-avoidance)	8.1	0.38 - 0.75	39,606	3,208.09	0.001 - 0.002	N	N/A

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**
Handa SPA							
Kittiwake	14.6	0.11 - 0.13	9,178	1,339.99	0.001	N	N/A
Shiant Isles SPA							
Kittiwake	14.6	0.02	2,318	338.43	<0.001 - 0.001	N	N/A
Farne Islands SPA							
Kittiwake***	14.6	0.07 - 0.09	5,790	845.34	0.001 - 0.002	N	N/A
Flamborough and Filey Coast SPA							
Gannet (Applicant Approach to macro-avoidance)***	8.1	0.08 – 0.20	31,588	2,558.63	<0.001 - 0.001	N	N/A
Gannet (Guidance Approach to macro-avoidance)***	8.1	0.08 - 0.20	31,588	2,558.63	<0.001 - 0.001	N	N/A

* Values presented in brackets present the annual apportioned predicted mortality for Caledonia South submitted at application. These values are only presented for scenarios where the threshold is reached for undertaking PVA.

** As agreed in consultation with NatureScot (consultation meetings dated 04 June 2025 and 07 August 2025 and via email on 18 August 2025) HRA-level PVA is only required to be re-run as part of assessment updates where the difference in the annual apportioned predicted mortality to an SPA between submission impacts and updated impacts are greater than 0.5 of a bird (including increases and decreases).

*** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, annual apportioned predicted mortalities presented are for the non-breeding season only.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and the impact change threshold is reached for undertaking PVA (changes of 0.5 of a bird; marked by Y in the table) indicate the sites and features taken through for PVA (i.e. where both columns are marked with a Y). Where the threshold is not reached for undertaking PVA (≤0.02; marked as N in the table) the impact change threshold is marked as N/A as no PVA is required for these scenarios.

5.4 Summary of Caledonia South Alone Impacts

5.4.1.1 Assessments undertaken using the Applicant Approach (Table 5-1 to Table 5-3) and Guidance Approach (Table 5-4 to Table 5-6) present operational and maintenance phase impacts from distributional responses, collision and from distributional responses and collision combined.

5.4.1.2 Where assessments undertaken for features and designated sites presented within Table 5-1 to Table 5-6 indicated impacts to below the threshold for undertaking further assessment using PVA (0.02 percentage point change in adult survival rate) predicted impacts would be indistinguishable from natural fluctuations in the population.

5.4.1.3 Therefore, the potential for an AEoSI to the conservation objectives of all features and sites considered from Caledonia South alone during the operation and maintenance phase can be ruled under the Applicant Approach and the Guidance Approach for these scenarios.

5.4.1.4 Assessments undertaken using the Guidance Approach, indicated impacts to three features (guillemot, razorbill, and kittiwake) from five different designated sites (East Caithness Cliffs SPA, North Caithness Cliffs SPA, Troup, Pennan and Lion's Heads SPA, Copinsay SPA and Buchan Ness to Collieston Coast SPA) to have reached both the threshold for undertaking further assessment using PVA (0.02 percentage point change in adult survival rate) and where the difference in the impacted adults apportioned to an SPA annually between submission impacts and updated impacts are greater than 0.5 of a bird (as agreed in consultation with NatureScot; consultation meetings dated 04 June 2025 and 07 August 2025) as shown in Table 5-7.

5.4.1.5 Further assessment of these features and designated sites where both thresholds are met (Table 5-7) is undertaken using PVA. In order to avoid repetition PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7. PVA has also been carried out for great black-backed gull at the Copinsay SPA as requested by NatureScot.

Table 5-7: Impacts from distributional responses, collision and from distributional responses and collision combined to sites and features that have reached the threshold for undertaking PVA for Caledonia South alone impacts.

Designated Site	Species	Impact	Annual Apportioned Predicted Mortality*	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**	Outcomes
Guidance Approach							
East Caithness Cliffs SPA	Guillemot	Distributional responses	78.75 - 142.37 (89.19 – 161.75)	0.039 - 0.071	Y	Y	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7.
	Razorbill	Distributional responses	7.19 - 12.25 (7.32 – 12.47)	0.018 - 0.030	Y (for the upper end of the Guidance Approach only)	N	As presented, annual impacts are predicted to decrease by less than 0.5 of a single bird. This level of decrease does not represent a material change; thus, the conclusions made within the RIAA remain the same (no potential for an AEoSI; Application Document 14: Report to Inform Appropriate Assessment (Part 3)).
	Kittiwake	Distributional responses and collision combined	9.54 - 11.42 (12.16 – 14.55)	0.019 - 0.023	Y (for the upper end of the Guidance Approach only)	Y	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7.
North Caithness Cliffs SPA	Guillemot	Distributional responses	11.48 - 22.58 (11.92 – 23.96)	0.018 - 0.036	Y (for the upper end of the Guidance Approach only)	Y	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7.
Troup, Pennan and Lion's Heads SPA	Guillemot	Distributional responses	19.34 - 34.88 (13.41 – 25.48)	0.041 - 0.073	Y	Y	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7.
	Razorbill	Distributional responses	1.60 - 2.71 (1.19 – 2.02)	0.018 - 0.031	Y (for the upper end of the Guidance Approach only)	Y	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7.
	Kittiwake	Distributional responses and collision combined	6.69 - 8.00 (4.96 – 5.94)	0.024 - 0.029	Y	Y	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7.
Copinsay SPA	Guillemot	Distributional responses	0.18 - 0.37 (1.58 – 3.35)	0.013 - 0.028	Y (for the upper end of the Guidance Approach only)	Y	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7 for the upper end of the Guidance Approach only.
	Great black-backed gull***	Collision	0.04 (0.04)	0.038	Y	N (requested within NatureScot representations)	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7.

Designated Site	Species	Impact	Annual Apportioned Predicted Mortality*	Change in Average Survival Rate (% Point Change)	Threshold reached for undertaking PVA (≥0.02)	Impact change threshold reached for undertaking PVA (0.5 of a bird)**	Outcomes
Hoy SPA	Guillemot	Distributional responses	2.02 - 4.28 (2.17 – 4.69)	0.012 - 0.026	Y (for the upper end of the Guidance Approach only)	N	As presented, annual impacts are predicted to increase by less than 0.5 of a single bird. This level of increase does not represent a material change; thus, the conclusions made within the RIAA remain the same (no potential for an AEoSI; Application Document 14: Report to Inform Appropriate Assessment (Part 3)).
	Puffin	Distributional responses	0.10 - 0.20 (0.10 – 0.19)	0.014 - 0.028	Y (for the upper end of the Guidance Approach only)	N	As presented, annual impacts are predicted to increase by less than 0.5 of a single bird. This level of increase does not represent a material change; thus, the conclusions made within the RIAA remain the same (no potential for an AEoSI; Application Document 14: Report to Inform Appropriate Assessment (Part 3)).
Buchan Ness to Collieston Coast SPA	Guillemot	Distributional responses	5.88 - 12.07 (Not assessed previously)	0.014 - 0.030	Y (for the upper end of the Guidance Approach only)	Y	PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7 for the upper end of the Guidance Approach only.
Marwick Head SPA	Guillemot	Distributional responses	1.12 - 2.58 (1.20 – 2.85)	0.009 - 0.020	Y (for the upper end of the Guidance Approach only)	N	As presented, annual impacts are predicted to increase by less than 0.5 of a single bird. This level of increase does not represent a material change; thus, the conclusions made within the RIAA remain the same (no potential for an AEoSI; Application Document 14: Report to Inform Appropriate Assessment (Part 3)).
Calf of Eday SPA	Guillemot	Distributional responses	0.62 - 1.44 (0.67 – 1.59)	0.008 - 0.020	Y (for the upper end of the Guidance Approach only)	N	As presented, annual impacts are predicted to increase by less than 0.5 of a single bird. This level of increase does not represent a material change; thus, the conclusions made within the RIAA remain the same (no potential for an AEoSI; Application Document 14: Report to Inform Appropriate Assessment (Part 3)).

* Values presented in brackets present the annual apportioned predicted mortality for Caledonia South submitted at application. These values are only presented for scenarios where the threshold is reached for undertaking PVA.

** As agreed in consultation with NatureScot (consultation meetings dated 04 June 2025 and 07 August 2025 and via email on 18 August 2025) HRA-level PVA is only required to be re-run as part of assessment updates where the difference in the annual apportioned predicted mortality to an SPA between submission impacts and updated impacts are greater than 0.5 of a bird (including increases and decreases).

*** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South)) and in agreement with NatureScot, email received on 07 August 2025). As such, annual apportioned predicted mortalities presented are for the non-breeding season only.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and the impact change threshold is reached for undertaking PVA (changes of 0.5 of a bird; marked by Y in the table) indicate the sites and features taken through for PVA (i.e., where both columns are marked with a Y). Where the threshold is not reached for undertaking PVA (≤0.02; marked as N in the table) the impact change threshold is marked as N/A as no PVA is required for these scenarios.

5.5 Potential In-Combination Impacts

5.5.1 Summary

5.5.1.1 In-combination impacts have been assessed for Caledonia South in-combination with other plans and projects for distributional responses, collision and distributional responses and collision combined, using the Applicant Approach (Table 5-8 to Table 5-13) and the Guidance Approach (Table 5-14 to Table 5-19).

5.5.1.2 Two in-combination effects totals are presented where applicable for the sites and features screened in for in-combination assessments, these are:

- All projects where information is available (plus Caledonia South)
  - Applicant Approach; Table 5-8 (distributional responses), Table 5-9 (collision) and Table 5-10 (distributional responses and collision combined)
  - Guidance Approach; Table 5-14 (distributional responses), Table 5-15 (collision) and Table 5-16 (distributional responses and collision combined)
- All projects excluding consented projects that have made a commitment to compensation (plus Caledonia South) (in this instance commitment to compensation refers to projects which have been awarded consent on the basis that any and all adverse effects on seabirds would be fully compensated)
  - Applicant Approach; Table 5-11 (distributional responses), Table 5-12 (collision) and Table 5-13 (distributional responses and collision combined)
  - Guidance Approach; Table 5-17 (distributional responses), Table 5-18 (collision) and Table 5-19 (distributional responses and collision combined).

5.5.1.3 It is important to note that as discussed in consultation (07 August 2025) all in-combination assessment outcomes are based on the second scenario outlined above (i.e., all projects excluding consented projects that have made a commitment to compensation (plus Caledonia South)). This is a precautionary approach which is deemed to overestimate actual impacts because unconsented projects which have submitted RIAAs where AEoSI is predicted have not been excluded, despite those projects being expected to compensate for their predicted impacts.

5.5.1.4 Potential impacts from Caledonia South in-combination with other plans and projects has been assessed for featured of designated sites when the contribution from Caledonia South alone is an annual mortality greater than 0.2 (in line with NatureScot advice given to previous projects such as

Cenos OWF) and where impacts exceeded the threshold for assessment (0.02 percentage point change in adult survival rate) (in line with NatureScot Guidance Note 11; NatureScot, 2023[13]).

5.5.1.5 As with Caledonia South Alone impacts, where no differences exist between Guidance and Applicant Approach's to assessments these are presented under the Guidance approach to avoid repetition.

5.5.1.6 Additionally, where no differences exist between the two in-combination effect totals outlined above (i.e., the all project approach where information is available and the all project approach excluding consented projects that have made a commitment to compensation) these are presented under the all project approach.

5.5.2 In-combination Impacts using Applicant Approach

Table 5-8: In-combination impacts from distributional response for all projects where information is available (plus Caledonia South) when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
East Caithness Cliffs SPA								
Guillemot	6.1	334.73	199,966	12,197.90	0.167	Y	26.51	Y
Razorbill	10.5	61.72	40,373	4,239.15	0.253	Y	2.11	Y
North Caithness Cliffs SPA								
Guillemot	6.1	25.76	62,102	3,788.24	0.041	Y	4.63	Y
Razorbill	10.5	5.27	12,329	1,294.58	0.143	Y	0.23	Y
Puffin**	9.4	8.60	6,766	636.00	0.127	Y	0.06	N
Troup, Pennan and Lion's Heads SPA								
Guillemot	6.1	49.06	47,719	2,910.84	0.103	Y	6.48	Y
Razorbill	10.5	6.38	8,801	924.11	0.172	Y	0.46	Y
Copinsay SPA								
Guillemot	6.1	2.69	1,312	80.02	0.205	Y	0.08	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Hoy SPA								
Guillemot	6.1	1.62	16,345	997.06	0.010	N	0.94	Y
Puffin**	9.4	0.97	722	67.87	0.134	Y	0.05	N
Buchan Ness to Collieston Coast SPA								
Guillemot	6.1	77.31	40,763	2,486.54	0.190	Y	2.58	Y
Rousay SPA								
Guillemot	6.1	0.55	7,921	483.17	0.007	N	0.36	Y
Marwick Head SPA								
Guillemot	6.1	1.38	12,800	780.78	0.011	N	0.61	Y
Calf of Eday SPA								
Guillemot	6.1	0.45	7,402	451.53	0.006	N	0.34	Y
West Westray SPA								
Guillemot	6.1	3.35	43,035	2,625.14	0.008	N	1.93	Y
Razorbill	10.5	1.66	3,103	325.86	0.153	Y	0.02	N
Cape Wrath SPA								
Puffin**	9.4	0.06	428	40.23	0.014	N	<0.01	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Sule Skerry and Sule Stack SPA								
Puffin**	9.4	4.22	95,484	8975.50	0.004	N	0.27	Y
Gannet	8.1	4.84	15,648	1,267.49	0.031	Y	0.12	N
Guillemot	6.1	22.33	14,284	871.32	0.156	Y	0.61	Y
Fair Isle SPA								
Razorbill	10.5	2.52	2,580	270.90	0.198	Y	0.02	N
Puffin**	9.4	6.75	13,332	1,253.21	0.051	Y	0.18	N
Gannet	8.1	3.37	11,184	905.90	0.030	Y	0.10	N
Guillemot	6.1	2.78	24,515	1,495.42	0.011	N	1.01	Y
Foula SPA								
Puffin**	9.4	6.01	12,702	1,193.99	0.047	Y	0.28	Y
North Rona and Sula Sgeir SPA								
Puffin**	9.4	0.02	5,668	532.79	<0.001	N	0.01	N
Gannet	8.1	2.00	18,990	1,538.19	0.011	N	0.06	N
Forth Islands SPA								
Gannet	8.1	148.39	162,000	13,122.00	0.092	Y	1.24	Y
Puffin**	9.4	103.35	117,960	11,088.24	0.088	Y	2.90	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Noss SPA								
Puffin**	9.4	0.21	1,194	112.24	0.018	N	0.01	N
Gannet	8.1	10.24	24,670	1,998.27	0.042	Y	0.13	N
Hermaness, Saxa Vord and Valla Field SPA								
Gannet	8.1	21.66	39,606	3,208.09	0.055	Y	0.19	N
Flamborough and Filey Coast SPA								
Gannet***	8.1	80.16	31,588	2,558.63	0.254	Y	0.06	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the North East and East Ornithology Group (NEEOG). This dataset was provided to NatureScot on 8 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

** The Applicant has decided to include the Year 1 August count in the non-breeding season rather than during the breeding season. This is due to the Year 1 August abundance from the baseline DAS being considered to reflect migration rather than individuals present in the breeding season.

*** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y). Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.

Table 5-9: In-combination impacts from collision for all projects where information is available (plus Caledonia South) when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Sule Skerry and Sule Stack SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	5.95	15,648	1,267.49	0.038	Y	0.08	N
Fair Isle SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	0.98	11,184	905.90	0.009	N	0.06	N
North Rona and Sula Sgeir SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	0.47	18,990	1,538.19	0.002	N	0.04	N
Forth Islands SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	158.51	162,000	13,122.00	0.098	Y	0.68	Y
Noss SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	2.91	24,670	1,998.27	0.012	N	0.07	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Hermaness, Saxa Vord and Valla Field SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	5.64	39,606	3,208.09	0.014	N	0.08	N
Flamborough and Filey Coast SPA								
Gannet (Applicant Approach to macro-avoidance)**	8.1	67.03	31,588	2,558.63	0.212	Y	0.02	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 8 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y). Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.

Table 5-10: In-combination impacts from distributional responses and collision combined for all projects where information is available (plus Caledonia South) when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Sule Skerry and Sule Stack SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	10.79	15,648	1,267.49	0.069	Y	<0.20	N
Gannet (Guidance Approach to macro-avoidance)	8.1	24.34	15,648	1,267.49	0.156	Y	0.37	Y
Fair Isle SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	4.35	11,184	905.90	0.039	Y	0.16	N
Gannet (Guidance Approach to macro-avoidance)	8.1	5.23	11,184	905.90	0.047	Y	0.28	Y
North Rona and Sula Sgeir SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	2.47	18,990	1,538.19	0.013	N	0.10	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Gannet (Guidance Approach to macro-avoidance)	8.1	3.09	18,990	1,538.19	0.016	N	0.18	N
Forth Islands SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	306.90	162,000	13,122.00	0.189	Y	1.92	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	647.72	162,000	13,122.00	0.400	Y	3.29	Y
Noss SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	13.15	24,670	1,998.27	0.053	Y	<0.20	N
Gannet (Guidance Approach to macro-avoidance)	8.1	15.03	24,670	1,998.27	0.061	Y	0.32	Y
Hermaness, Saxa Vord and Valla Field SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	26.78	39,606	3,208.09	0.068	Y	0.27	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Gannet (Guidance Approach to macro-avoidance)	8.1	29.64	39,606	3,208.09	0.075	Y	0.38	Y
Flamborough and Filey Coast SPA								
Gannet (Applicant Approach to macro-avoidance)**	8.1	147.19	31,588	2,558.63	0.466	Y	0.08	N
Gannet (Guidance Approach to macro-avoidance)**	8.1	273.04	31,588	2,558.63	0.864	Y	0.08	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y).

Table 5-11: In-combination impacts from distributional response for all projects excluding consented projects that have made a commitment to compensation (plus Caledonia South) when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
East Caithness Cliffs SPA								
Guillemot	6.1	298.87	199,966	12,197.90	0.149	Y	26.51	Y
Razorbill	10.5	55.21	40,373	4,239.15	0.237	Y	2.11	Y
North Caithness Cliffs SPA								
Guillemot	6.1	20.27	62,102	3,788.24	0.033	Y	4.63	Y
Razorbill	10.5	4.43	12,329.34	1,294.58	0.136	Y	0.23	Y
Puffin**	9.4	8.44	6,766	636.00	0.125	Y	0.06	N
Troup, Pennan and Lion's Heads SPA								
Guillemot	6.1	23.54	47,719	2,910.84	0.049	Y	6.48	Y
Razorbill	10.5	4.94	8,801	924.11	0.156	Y	0.46	Y
Copinsay SPA								
Guillemot	6.1	0.08	1,312	80.02	0.006	N	0.08	N
Hoy SPA								
Guillemot	6.1	1.33	16,345	997.06	0.008	N	0.94	Y
Puffin**	9.4	0.70	722	67.87	0.098	Y	0.05	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Buchan Ness to Collieston Coast SPA								
Guillemot	6.1	23.00	40,763	2,625.14	0.056	Y	2.58	Y
Rousay SPA								
Guillemot	6.1	0.36	7,921	483.17	0.005	N	0.36	Y
Marwick Head SPA								
Guillemot	6.1	1.00	12,800	780.78	0.008	N	0.61	Y
Calf of Eday SPA								
Guillemot	6.1	0.34	7,402	451.53	0.005	N	0.34	Y
West Westray SPA								
Guillemot	6.1	2.44	43,035	2,625.14	0.006	N	1.93	Y
Razorbill	10.5	1.42	3,103.44	325.86	0.146	Y	0.02	N
Cape Wrath SPA								
Puffin**	9.4	0.04	428	40.23	0.010	N	<0.01	N
Sule Skerry and Sule Stack SPA								
Puffin**	9.4	3.01	95,484	8,975.50	0.003	N	0.27	Y
Gannet	8.1	1.45	15,648	1,267.49	0.009	N	0.12	N
Guillemot	6.1	0.93	14,284	871.32	0.006	N	0.61	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Fair Isle SPA								
Razorbill	10.5	2.14	2,580	270.90	0.183	Y	0.02	N
Puffin**	9.4	4.77	13,332	1,253.21	0.036	Y	0.18	N
Gannet	8.1	2.97	11,184	905.90	0.027	Y	0.10	N
Guillemot	6.1	1.01	24,515	1,495.42	0.004	N	1.01	Y
Foula SPA								
Puffin**	9.4	4.32	12,702	1,193.99	0.034	Y	0.28	Y
North Rona and Sula Sgeir SPA								
Puffin**	9.4	0.01	5,668	532.79	<0.001	N	0.01	N
Gannet	8.1	1.61	18,990	1,538.19	0.008	N	0.06	N
Forth Islands SPA								
Gannet	8.1	112.53	162,000	13,122.00	0.069	Y	1.24	Y
Puffin**	9.4	81.63	117,960	11,088.24	0.069	Y	2.90	Y
Noss SPA								
Puffin**	9.4	0.15	1,194	112.24	0.013	N	0.01	N
Gannet	8.1	9.21	24,670	1,998.27	0.037	Y	0.13	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Hermaness, Saxa Vord and Valla Field SPA								
Gannet	8.1	19.14	39,606	3,208.09	0.048	Y	0.19	N
Flamborough and Filey Coast SPA								
Gannet***	8.1	79.25	31,588	2,558.63	0.251	Y	0.06	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025. The following projects have been excluded for the all projects excluding consented projects that have made a commitment to compensation scenario: Berwick Bank OWF, Green Volt OWF, West of Orkney OWF, and Salamander for guillemot, razorbill, puffin and gannet.

** The Applicant has decided to include the Year 1 August count in the non-breeding season rather than during the breeding season. This is due to the Year 1 August abundance from the baseline DAS being considered to reflect migration rather than individuals present in the breeding season.

*** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y). Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.

Table 5-12: In-combination impacts from collision for all projects excluding consented projects that have made a commitment to compensation (plus Caledonia South) when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Sule Skerry and Sule Stack SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	0.47	15,648	1,267.49	0.003	N	0.08	N
Fair Isle SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	0.90	11,184	905.90	0.008	N	0.06	N
North Rona and Sula Sgeir SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	0.39	18,990	1,538.19	0.002	N	0.04	N
Forth Islands SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	124.22	162,000	13,122.00	0.077	Y	0.68	Y
Noss SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	2.53	24,670	1,998.27	0.010	N	0.07	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold Reached for Undertaking PVA In-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Hermaness, Saxa Vord and Valla Field SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	5.04	39,606	3,208.09	0.013	N	0.08	N
Flamborough and Filey Coast SPA								
Gannet (Applicant Approach to macro-avoidance)**	8.1	66.45	31,588	2,558.63	0.210	Y	0.02	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025. The following projects have been excluded for the all projects excluding consented projects that have made a commitment to compensation scenario: Berwick Bank OWF, Green Volt OWF, West of Orkney OWF, and Salamander for gannet.

** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y). Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.

Table 5-13: In-combination impacts from distributional response and collision combined for all projects excluding consented projects that have made a commitment to compensation (plus Caledonia South) when considering the 'Applicant Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Sule Skerry and Sule Stack SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	1.92	15,648	1,267.49	0.012	N	<0.20	N
Gannet (Guidance Approach to macro-avoidance)	8.1	2.76	15,648	1,267.49	0.018	N	0.37	Y
Fair Isle SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	3.86	11,184	905.90	0.035	Y	0.16	N
Gannet (Guidance Approach to macro-avoidance)	8.1	4.61	11,184	905.90	0.041	Y	0.28	Y
North Rona and Sula Sgeir SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	2.00	18,990	1,538.19	0.011	N	0.10	N
Gannet (Guidance Approach to macro-avoidance)	8.1	2.46	18,990	1,538.19	0.013	N	0.18	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Forth Islands SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	236.75	162,000	13,122.00	0.146	Y	1.92	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	499.14	162,000	13,122.00	0.308	Y	3.29	Y
Noss SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	11.74	24,670	1,998.27	0.048	Y	<0.20	N
Gannet (Guidance Approach to macro-avoidance)	8.1	12.96	24,670	1,998.27	0.053	Y	0.32	Y
Hermaness, Saxa Vord and Valla Field SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	24.18	39,606	3,208.09	0.061	Y	0.27	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	25.97	39,606	3,208.09	0.066	Y	0.38	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Flamborough and Filey Coast SPA								
Gannet (Applicant Approach to macro-avoidance)**	8.1	134.73	31,588	2,558.63	0.427	Y	0.08	N
Gannet (Guidance Approach to macro-avoidance)**	8.1	145.70	31,588	2,558.63	0.461	Y	0.08	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025. The following projects have been excluded for the all projects excluding consented projects that have made a commitment to compensation scenario: Berwick Bank OWF, Green Volt OWF, West of Orkney OWF, and Salamander gannet.

** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y).

5.5.3 In-combination Impacts using Guidance Approach

Table 5-14: In-combination impacts from distributional responses for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
East Caithness Cliffs SPA								
Kittiwake	14.6	69.58 - 208.74	48,958	7,147.87	0.142 - 0.426	Y	0.94 - 2.83	Y
Guillemot	6.1	859.26 – 1,662.61	199,966	12,197.90	0.430 – 0.831	Y	78.75 - 142.37	Y
Razorbill	10.5	136.47 – 284.60	40,372.86	4,239.15	0.438 – 0.805	Y	7.19 - 12.25	Y
North Caithness Cliffs SPA								
Kittiwake	14.6	10.47 - 31.42	18,608	2,716.77	0.056 - 0.169	Y	0.13 - 0.39	Y
Guillemot	6.1	63.06 – 124.89	62,102	3,788.24	0.102 – 0.201	Y	11.48 - 22.58	Y
Razorbill	10.5	7.77 – 20.41	12,329	1,294.58	0.163 – 0.266	Y	0.78 -1.34	Y
Puffin**	9.4	30.58 – 51.38	6,766	636.00	0.452 – 0.759	Y	0.44 - 0.75	Y
Troup, Pennan and Lion's Heads SPA								
Kittiwake	14.6	19.01 - 57.03	27,344	3,992.22	0.070 - 0.209	Y	0.66 - 1.97	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Guillemot	6.1	94.26 – 211.99	47,719	2,910.84	0.198 – 0.444	Y	19.34 - 34.88	Y
Razorbill	10.5	11.01 – 26.31	8,801	924.11	0.225 – 0.399	Y	1.60 - 2.71	Y
Copinsay SPA								
Kittiwake	14.6	0.62 - 1.85	670	97.82	0.092 - 0.276	Y	0.01 - 0.02	N
Guillemot	6.1	4.30 – 10.77	1,312	80.02	0.328 – 0.821	Y	0.18 - 0.37	Y
Hoy SPA								
Kittiwake	14.6	0.38 - 1.14	608	88.77	0.062 - 0.187	Y	<0.01 - 0.01	N
Guillemot	6.1	3.62 – 7.52	16,345	997.06	0.022 - 0.046	Y	2.02 - 4.28	Y
Puffin**	9.4	1.30 – 3.63	722	67.87	0.180 – 0.503	Y	0.10 - 0.20	Y
Buchan Ness to Collieston Coast SPA								
Kittiwake	14.6	16.67 - 50.00	27,094	3,955.72	0.062 - 0.185	Y	0.21 - 0.62	Y
Guillemot	6.1	148.06 – 333.59	40,763	2,486.54	0.363 – 0.818	Y	5.88 - 12.07	Y
Rousay SPA								
Kittiwake	14.6	1.53 - 4.58	962	140.45	0.159 - 0.476	Y	0.01 - 0.02	N
Guillemot	6.1	0.88 – 2.21	7,921	483.17	0.011 – 0.028	Y	0.65 - 1.52	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Marwick Head SPA								
Kittiwake	14.6	0.52 - 1.56	2,878	420.19	0.018 - 0.054	Y	0.01 - 0.03	N
Guillemot	6.1	2.69 – 6.01	12,800	780.78	0.021 – 0.047	Y	1.12 - 2.58	Y
Calf of Eday SPA								
Kittiwake	14.6	0.65 - 1.95	324	47.30	0.201 - 0.602	Y	<0.01 - 0.01	N
Guillemot	6.1	0.75 – 1.83	7,402	451.53	0.010 – 0.025	Y	0.62 - 1.44	Y
West Westray SPA								
Kittiwake	14.6	10.52 - 31.57	8,004	1,168.58	0.131 - 0.394	Y	0.04 - 0.12	N
Guillemot	6.1	5.32 – 13.36	43,035	2,625.14	0.012 – 0.031	Y	3.32 - 7.96	Y
Razorbill	10.5	2.34 – 6.32	3,103	325.86	0.175 – 0.304	Y	0.06 - 0.11	N
Fowlsheugh SPA								
Kittiwake	14.6	30.57 - 91.70	40,156	5,862.78	0.076 - 0.228	Y	0.14 - 0.43	Y
Cape Wrath SPA								
Kittiwake	14.6	0.60 - 1.79	6,656	971.78	0.009 - 0.027	Y	0.01 - 0.03	N
Puffin**	9.4	0.22 – 0.36	428	40.23	0.050 – 0.085	Y	0.02 - 0.03	N
Sule Skerry and Sule Stack SPA								
Puffin**	9.4	16.21 – 27.18	95,484	8,975.50	0.017 – 0.028	Y	2.23 - 3.72	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Gannet	8.1	4.84 – 14.52	15,648	1,267.49	0.031 – 0.093	Y	0.12 - 0.36	Y
Guillemot	6.1	78.33 – 131.94	14,284	871.32	0.548 – 0.924	Y	1.00 - 2.47	Y
Fair Isle SPA								
Kittiwake	14.6	0.67 - 2.01	896	130.82	0.075 - 0.224	Y	<0.01 - 0.01	N
Razorbill	10.5	3.05 – 9.10	2,580	270.90	0.218 – 0.453	Y	0.04 - 0.09	N
Puffin**	9.4	17.75 – 34.08	13,332	1,253.21	0.133 – 0.256	Y	0.59 - 1.06	Y
Gannet	8.1	3.37 – 10.11	11,184	905.90	0.030 – 0.090	Y	0.10 - 0.30	Y
Guillemot	6.1	4.30 – 10.98	24,515	1,495.42	0.018 – 0.045	Y	1.60 - 4.03	Y
Sumburgh Head SPA								
Kittiwake	14.6	0.19 - 0.56	691	100.89	0.027 - 0.081	Y	<0.01	N
Handa SPA								
Kittiwake	14.6	0.77 - 2.30	9,178	1,339.99	0.008 - 0.025	Y	0.01 - 0.03	N
Foula SPA								
Kittiwake	14.6	0.28 - 0.85	1,193	174.18	0.024 - 0.071	Y	<0.01	N
Puffin**	9.4	7.40 – 21.78	12,702	1,193.99	0.058 – 0.171	Y	0.39 - 0.83	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
North Rona and Sula Sgeir SPA								
Kittiwake	14.6	0.02 - 0.06	1,424	207.90	0.001 - 0.004	N	<0.01	N
Puffin**	9.4	0.07 – 0.13	5,668	532.79	0.001 – 0.002	N	0.06 - 0.10	N
Gannet	8.1	2.00 – 6.00	18,990	1,538.19	0.011 – 0.032	Y	0.06 - 0.18	N
Forth Islands SPA								
Kittiwake	14.6	11.97 - 35.92	14,216	2,075.54	0.084 - 0.253	Y	0.03 - 0.09	N
Gannet	8.1	148.39 – 445.17	162,000	13,122.00	0.092 – 0.275	Y	1.24 - 3.72	Y
Puffin**	9.4	242.29 – 490.97	117,960	11,088.24	0.205 – 0.416	Y	6.20 - 11.98	Y
Noss SPA								
Kittiwake	14.6	0.43 - 1.30	154	22.48	0.282 - 0.847	Y	<0.01	N
Puffin**	9.4	0.26 – 0.78	1,194	112.24	0.022 – 0.065	Y	0.02 - 0.03	N
Gannet	8.1	10.24 – 30.73	24,670	1,998.27	0.042 – 0.125	Y	0.13 - 0.39	Y
St Abbs Head to Fast Castle SPA								
Kittiwake	14.6	35.95 - 107.86	11,992	1,750.83	0.300 - 0.899	Y	0.02 - 0.06	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
The Shaint Isles SPA								
Kittiwake	14.6	0.01 - 0.03	2,318	338.43	<0.001 - 0.001	N	<0.01	N
Hermaness, Saxa Vord and Valla Field SPA								
Kittiwake	14.6	0.34 - 1.01	378	55.19	0.089 - 0.266	Y	<0.01	N
Gannet	8.1	21.66 – 64.99	39,606	3,208.09	0.055 – 0.164	Y	0.19 - 0.56	Y
Farne Islands SPA								
Kittiwake***	14.6	6.52 - 19.57	5,790	845.34	0.113 - 0.338	Y	0.01 - 0.02	N
Flamborough and Filey Coast SPA								
Gannet***	8.1	80.16 – 240.47	31,588	2,558.63	0.254 – 0.761	Y	0.06 - 0.19	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

** The mean seasonal peaks for puffin have been presented with the August count included in the breeding season as per the Guidance Approach.

*** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
through for in-combination PVA (i.e., where both columns are marked with a Y). Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.								

Table 5-15: In-combination impacts from collision for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Alone Annual Contribution to Mortalities ≥0.2)
East Caithness Cliffs SPA								
Kittiwake	14.6	212.48	48,958	7,147.87	0.434	Y	8.59	Y
Great black-backed gull**	11.5	15.14	532	61.18	2.846	Y	0.03	N
Herring gull**	16.6	19.84	6,600	1,095.60	0.301	Y	0.04	N
North Caithness Cliffs SPA								
Kittiwake	14.6	53.54	18,608	2,716.77	0.288	Y	1.17	Y
Troup, Pennan and Lion's Heads SPA								
Kittiwake	14.6	142.93	27,344	3,992.22	0.523	Y	6.04	Y
Herring gull**	16.6	1.35	1,108	183.93	0.122	Y	0.02	N
Copinsay SPA								
Kittiwake	14.6	2.94	670	97.82	0.439	Y	0.05	N
Great black-backed gull**	16.6	4.39	97	11.16	4.522	Y	0.04	N
Hoy SPA								
Kittiwake	14.6	1.88	608	88.77	0.309	Y	0.04	N
Buchan Ness to Collieston Coast SPA								
Kittiwake	14.6	92.59	27,094	3,955.72	0.342	Y	1.86	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Alone Annual Contribution to Mortalities ≥0.2)
Herring gull**	16.6	6.13	4,536	752.98	0.135	Y	<0.01	N
Rousay SPA								
Kittiwake	14.6	7.48	962	140.45	0.778	Y	0.04	N
Marwick Head SPA								
Kittiwake	14.6	2.75	2,878	420.19	0.096	Y	0.09	N
Calf of Eday SPA								
Kittiwake	14.6	3.18	324	47.30	0.980	Y	0.02	N
West Westray SPA								
Kittiwake	14.6	51.44	8,004	1,168.58	0.643	Y	0.31	Y
Fowlsheugh SPA								
Kittiwake	14.6	170.86	40,156	5,862.78	0.425	Y	1.30	Y
Cape Wrath SPA								
Kittiwake	14.6	3.09	6,656	971.78	0.046	Y	0.10	N
Sule Skerry and Sule Stack SPA								
Gannet (Guidance Approach to macro-avoidance)	8.1	19.50	15,648	1,267.49	0.125	Y	0.25	Y
Fair Isle SPA								
Kittiwake	14.6	3.29	896	130.82	0.367	Y	0.02	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Alone Annual Contribution to Mortalities ≥0.2)
Gannet (Guidance Approach to macro-avoidance)	8.1	1.86	11,184	905.90	0.017	N	0.18	N
Sumburgh Head SPA								
Kittiwake	14.6	0.96	691	100.89	0.139	Y	0.01	N
Foula SPA								
Kittiwake	14.6	1.39	1,193	174.18	0.117	Y	0.01	N
North Rona and Sula Sgeir SPA								
Kittiwake	14.6	0.10	1,424	207.90	0.007	N	0.01	N
Gannet (Guidance Approach to macro-avoidance)	8.1	1.09	18,990	1,538.19	0.006	N	0.12	N
Forth Islands SPA								
Kittiwake	14.6	52.39	14,216	2,075.54	0.369	Y	0.25	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	499.33	162,000	13,122.00	0.308	Y	2.05	Y
Noss SPA								
Kittiwake	14.6	2.13	154	22.48	1.383	Y	0.01	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Alone Annual Contribution to Mortalities ≥0.2)
Gannet (Guidance Approach to macro-avoidance)	8.1	4.79	24,670	1,998.27	0.019	N	0.19	N
St Abb's Head to Fast Castle SPA								
Kittiwake	14.6	231.25	11,992	1,750.83	1.928	Y	0.18	N
Hermaness, Saxa Vord and Valla Field SPA								
Kittiwake	14.6	1.64	378	55.19	0.435	Y	0.01	N
Gannet (Guidance Approach to macro-avoidance)	8.1	7.98	39,606	3,208.09	0.020	Y	0.19	N
Handa SPA								
Kittiwake	14.6	0.70	9,178	1,339.99	0.008	N	0.10	N
Shiant Isles SPA								
Kittiwake	14.6	0.05	2,318	338.43	0.002	N	0.01	N
Farne Islands SPA								
Kittiwake**	14.6	37.33	5,790	845.34	0.645	Y	0.04	N
Flamborough and Filey Coast SPA								
Gannet (Guidance Approach to macro-avoidance)**	8.1	192.88	31,588	2,558.63	0.611	Y	0.02	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Alone Annual Contribution to Mortalities ≥0.2)
* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025. ** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality. Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y). Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.							

Table 5-16: In-combination impacts from distributional response and collision combined for all projects where information is available (plus Caledonia South) when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
East Caithness Cliffs SPA								
Kittiwake	14.6	282.07 – 421.23	48,958	7,147.87	0.576 – 0.860	Y	9.54 - 11.42	Y
North Caithness Cliffs SPA								
Kittiwake	14.6	64.02 – 84.97	18,608	2,716.77	0.344 – 0.457	Y	1.30 - 1.56	Y
Troup, Pennan and Lion's Heads SPA								
Kittiwake	14.6	161.94 – 199.96	27,344	3,992.22	0.592 – 0.731	Y	6.69 - 8.00	Y
Copinsay SPA								
Kittiwake	14.6	3.56 – 4.79	670	97.82	0.531 – 0.715	Y	0.05 - 0.06	N
Hoy SPA								
Kittiwake	14.6	2.26 – 3.02	608	88.77	0.372 – 0.496	Y	0.04 - 0.05	N
Buchan Ness to Collieston Coast SPA								
Kittiwake	14.6	109.26 – 142.59	27,094	3,955.72	0.403 – 0.526	Y	2.07 - 2.49	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Rousay SPA								
Kittiwake	14.6	9.01 – 12.06	962	140.45	0.937 – 1.254	Y	0.05 - 0.06	N
Marwick Head SPA								
Kittiwake	14.6	3.27 – 4.31	2,878	420.19	0.114 – 0.150	Y	0.10 - 0.12	N
Calf of Eday SPA								
Kittiwake	14.6	3.83 – 5.13	324	47.30	1.181 – 1.582	Y	0.02	N
West Westray SPA								
Kittiwake	14.6	61.96 – 83.00	8,004	1,168.58	0.774 – 1.037	Y	0.35 - 0.44	Y
Fowlsheugh SPA								
Kittiwake	14.6	201.43 – 262.56	40,156	5,862.78	0.502 – 0.654	Y	1.44 - 1.73	Y
Cape Wrath SPA								
Kittiwake	14.6	3.68 – 4.87	6,656	971.78	0.055 – 0.073	Y	0.11 - 0.14	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Sule Skerry and Sule Stack SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	10.79 – 20.47	15,648	1,267.49	0.069 – 0.131	Y	<0.20 – 0.44	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	24.34 – 34.01	15,648	1,267.49	0.156 – 0.217	Y	0.37 - 0.61	Y
Fair Isle SPA								
Kittiwake	14.6	3.96 – 5.30	896	130.82	0.442 – 0.592	Y	0.02 - 0.03	N
Gannet (Applicant Approach to macro-avoidance)	8.1	4.35 – 11.09	11,184	905.90	0.039 – 0.099	Y	0.16 – 0.36	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	5.23 – 11.97	11,184	905.90	0.047 – 0.107	Y	0.28 - 0.48	Y
Sumburgh Head SPA								
Kittiwake	14.6	1.15 – 1.52	691	100.89	0.166 – 0.220	Y	0.01	N
Foula SPA								
Kittiwake	14.6	1.68 – 2.24	1,193	174.18	0.140 – 0.188	N	0.01 - 0.02	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
North Rona and Sula Sgeir SPA								
Kittiwake	14.6	0.12 – 0.15	1,424	207.90	0.008 – 0.011	N	0.01	N
Gannet (Applicant Approach to macro-avoidance)	8.1	2.47 – 6.47	18,990	1,538.19	0.013 – 0.034	Y	0.10 – 0.22	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	3.09 – 7.09	18,990	1,538.19	0.016 – 0.037	Y	0.18 - 0.30	Y
Forth Islands SPA								
Kittiwake	14.6	64.37 – 88.31	14,216	2,075.54	0.453 – 0.621	Y	0.28 - 0.34	Y
Gannet (Applicant Approach to macro-avoidance)	8.1	306.90 – 603.68	162,000	13,122.00	0.189 – 0.373	Y	1.92 – 4.40	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	647.72 – 944.50	162,000	13,122.00	0.400 – 0.583	Y	3.29 - 5.77	Y
Noss SPA								
Kittiwake	14.6	2.56 – 3.43	154	22.48	1.665 – 2.230	Y	0.01	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Gannet (Applicant Approach to macro-avoidance)	8.1	13.15 – 33.64	24,670	1,998.27	0.053 – 0.136	Y	<0.20 – 0.46	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	15.03 – 35.52	24,670	1,998.27	0.061 – 0.144	Y	0.32 - 0.58	Y
St Abb's Head to Fast Castle SPA								
Kittiwake	14.6	267.20 – 339.11	11,992	1,750.83	2.228 – 2.828	Y	0.20 - 0.25	Y
Hermaness, Saxa Vord and Valla Field SPA								
Kittiwake	14.6	1.98 – 2.65	378	55.19	0.523 – 0.700	Y	0.01	N
Gannet (Applicant Approach to macro-avoidance)	8.1	26.78 – 69.06	39,606	3,208.09	0.068 – 0.174	Y	0.27 – 0.64	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	29.64 – 72.97	39,606	3,208.09	0.075 – 0.184	Y	0.38 - 0.75	Y
Handa SPA								
Kittiwake	14.6	1.47 – 3.00	9,178	1,339.99	0.016 – 0.033	Y	0.11 - 0.13	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Shiant Isles SPA								
Kittiwake	14.6	0.06 – 0.08	2,318	338.43	0.003	N	0.02	N
Farne Islands SPA								
Kittiwake**	14.6	43.86 – 46.26	5,790	845.34	0.757 – 0.799	Y	0.07 - 0.09	N
Flamborough and Filey Coast SPA								
Gannet (Applicant Approach to macro-avoidance)**	8.1	147.19 – 307.50	31,588	2,558.63	0.466 – 0.973	Y	0.08 – 0.20	Y
Gannet (Guidance Approach to macro-avoidance)**	8.1	273.04 – 433.35	31,588	2,558.63	0.864 – 1.372	Y	0.08 – 0.20	Y

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025.

** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y).

Table 5-17: In-combination impacts from distributional response for all projects excluding consented projects that have made a commitment to compensation (plus Caledonia South) when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
East Caithness Cliffs SPA								
Kittiwake	14.6	37.21 – 111.64	48,958	7,147.87	0.076 – 0.228	Y	0.94 - 2.83	Y
Guillemot	6.1	801.01 – 1,518.29	199,966	12,197.90	0.401 - 0.759	Y	78.75 - 142.37	Y
Razorbill	10.5	126.01 - 258.52	40,372.86	4,239.15	0.412 - 0.740	Y	7.19 - 12.25	Y
North Caithness Cliffs SPA								
Kittiwake	14.6	2.11 – 6.34	18,608	2,716.77	0.011 – 0.034	Y	0.13 - 0.39	Y
Guillemot	6.1	54.39 – 103.03	62,102	3,788.24	0.088 – 0.166	Y	11.48 - 22.58	Y
Razorbill	10.5	6.43 – 17.06	12,329.34	1,294.58	0.152 - 0.238	Y	0.78 -1.34	Y
Puffin**	9.4	30.20 – 50.62	6,766	636.00	0.446 – 0.748	Y	0.44 - 0.75	Y
Troup, Pennan and Lion's Heads SPA								
Kittiwake	14.6	5.98 – 17.95	27,344	3,992.22	0.022 – 0.066	Y	0.66 - 1.97	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Guillemot	6.1	47.43 – 103.92	47,719	2,910.84	0.099 – 0.218	Y	19.34 - 34.88	Y
Razorbill	10.5	7.65 - 19.51	8,801	924.11	0.187 – 0.322	Y	1.60 - 2.71	Y
Copinsay SPA								
Kittiwake	14.6	0.08 – 0.24	670	97.82	0.012 – 0.036	Y	0.01 - 0.02	N
Guillemot	6.1	0.18 – 0.37	1,312	80.02	0.013 – 0.028	Y	0.18 - 0.37	Y
Hoy SPA								
Kittiwake	14.6	0.04 – 0.12	608	88.77	0.007 – 0.020	Y	<0.01 - 0.01	N
Guillemot	6.1	3.27 – 6.47	16,345	997.06	0.020 – 0.040	Y	2.02 - 4.28	Y
Puffin**	9.4	0.97 – 2.67	722	67.87	0.134 – 0.370	Y	0.10 - 0.20	Y
Buchan Ness to Collieston Coast SPA								
Kittiwake	14.6	2.42 – 7.26	27,094	3,955.72	0.009 – 0.027	Y	0.21 - 0.62	Y
Guillemot	6.1	35.27 – 90.48	40,763	2,486.54	0.087 - 0.222	Y	5.88 - 12.07	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Rousay SPA								
Kittiwake	14.6	0.16 – 0.49	962	140.45	0.017 – 0.050	Y	0.01 - 0.02	N
Guillemot	6.1	0.65 – 1.52	7,921	483.17	0.008 – 0.019	N	0.65 - 1.52	Y
Marwick Head SPA								
Kittiwake	14.6	0.07 – 0.20	2,878	420.19	0.002 – 0.007	N	0.01 - 0.03	N
Guillemot	6.1	2.23 – 4.63	12,800	780.78	0.017 – 0.036	Y	1.12 - 2.58	Y
Calf of Eday SPA								
Kittiwake	14.6	0.07 – 0.21	324	47.30	0.022 – 0.065	Y	<0.01 - 0.01	N
Guillemot	6.1	0.62 – 1.44	7,402	451.53	0.008 – <0.020	N	0.62 - 1.44	Y
West Westray SPA								
Kittiwake	14.6	1.20 – 3.59	8,004	1,168.58	0.015 – 0.045	Y	0.04 - 0.12	N
Guillemot	6.1	4.23 – 10.09	43,035	2,625.14	0.010 – 0.023	Y	3.32 - 7.96	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Razorbill	10.5	2.04 - 5.45	3,103.44	325.86	0.166 – 0.276	Y	0.06 - 0.11	N
Fowlsheugh SPA								
Kittiwake	14.6	13.04 – 39.11	40,156	5,862.78	0.032 – 0.097	Y	0.14 - 0.43	N
Cape Wrath SPA								
Kittiwake	14.6	0.09 – 0.26	6,656	971.78	0.001 – 0.004	N	0.01 - 0.03	N
Puffin**	9.4	0.17 – 0.28	428	40.23	0.039 – 0.066	Y	0.02 - 0.03	N
Sule Skerry and Sule Stack SPA								
Puffin**	9.4	11.92 – 19.98	95,484	8,975.50	0.012 – 0.021	Y	2.23 - 3.72	Y
Gannet	8.1	1.45 – 4.36	15,648	1,267.49	0.009 – 0.028	Y	0.12 - 0.36	Y
Guillemot	6.1	1.94 – 4.17	14,284	871.32	0.014 – 0.029	Y	1.00 - 2.47	Y
Fair Isle SPA								
Kittiwake	14.6	0.07 – 0.22	896	130.82	0.008 – 0.025	Y	<0.01 - 0.01	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Razorbill	10.5	2.59 – 7.72	2,580	270.90	0.200 - 0.399	Y	0.04 - 0.09	N
Puffin**	9.4	12.54 – 24.12	13,332	1,253.21	0.094 – 0.181	Y	0.59 - 1.06	Y
Gannet	8.1	2.97 – 8.90	11,184	905.90	0.027 – 0.080	Y	0.10 - 0.30	Y
Guillemot	6.1	1.60 – 4.03	24,515	1,495.42	0.007 – 0.016	N	1.60 - 4.03	Y
Sumburgh Head SPA								
Kittiwake	14.6	0.02 – 0.06	691	100.89	0.003 – 0.008	N	<0.01	N
Foula SPA								
Kittiwake	14.6	0.03 – 0.09	1,193	174.18	0.003 - 0.008	N	<0.01	N
Puffin**	9.4	5.34 – 15.68	12,702	1,193.99	0.042 – 0.123	Y	0.39 - 0.83	Y
North Rona and Sula Sgeir SPA								
Kittiwake	14.6	<0.01 – 0.01	1,424	207.90	<0.001 – 0.001	N	<0.01	N
Puffin**	9.4	0.07 – 0.12	5,668	532.79	0.001 – 0.002	N	0.06 - 0.10	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Gannet	8.1	1.61 – 4.82	18,990	1,538.19	0.008 – 0.025	Y	0.06 - 0.18	N
Forth Islands SPA								
Kittiwake	14.6	6.35 – 19.06	14,216	2,075.54	0.045 – 0.134	Y	0.03 - 0.09	N
Gannet	8.1	112.53 – 337.59	162,000	13,122.00	0.069 – 0.208	Y	1.24 - 3.72	Y
Puffin**	9.4	201.09 – 397.64	117,960	11,088.24	0.170 – 0.337	Y	6.20 - 11.98	Y
Noss SPA								
Kittiwake	14.6	0.05 – 0.14	154	22.48	0.029 – 0.088	Y	<0.01	N
Puffin**	9.4	0.19 – 0.56	1,194	112.24	0.016 – 0.047	Y	0.02 - 0.03	N
Gannet	8.1	9.21 – 27.63	24,670	1,998.27	0.037 – 0.112	Y	0.13 - 0.39	Y
St Abb's Head to Fast Castle SPA								
Kittiwake	14.6	3.83 – 11.49	11,992	1,750.83	0.032 – 0.096	Y	0.02 - 0.06	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Hermaness, Saxa Vord and Valla Field SPA								
Kittiwake	14.6	0.03 – 0.10	378	55.19	0.009 - 0.028	Y	<0.01	N
Gannet	8.1	19.49 – 58.46	39,606	3,208.09	0.049 – 0.148	Y	0.19 - 0.56	Y
Handa SPA								
Kittiwake	14.6	0.01 – 0.04	9,178	1,339.99	<0.001	N	0.01 - 0.03	N
Shiant Isles SPA								
Kittiwake	14.6	<0.01 – 0.01	2,318	338.43	<0.001	N	<0.01	N
Farne Islands SPA								
Kittiwake***	14.6	0.73 – 2.19	5,790	845.34	0.013 – 0.038	Y	0.01 - 0.02	N
Flamborough and Filey Coast SPA								
Gannet***	8.1	79.25 – 237.74	31,588	2,558.63	0.251 – 0.753	Y	0.06 - 0.19	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025. The following projects have been excluded for the all projects excluding consented projects that have made a commitment to compensation scenario: Berwick Bank OWF, Green Volt OWF, West of Orkney OWF, and Salamander for guillemot, razorbill, puffin and gannet. For

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
kittiwake the same Scottish projects have been excluded, while all English projects have been excluded since these projects do not assess distributional response. ** The mean seasonal peaks for puffin have been presented with the August count included in the breeding season as per the Guidance Approach. *** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality. Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y). Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.								

Table 5-18: In-combination impacts from collision for all projects excluding consented projects that have made a commitment to compensation (plus Caledonia South) when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
East Caithness Cliffs SPA								
Kittiwake	14.6	176.56	48,958	7,147.87	0.361	Y	8.59	Y
Great black-backed gull**	11.5	14.99	532	61.18	2.818	Y	0.03	N
Herring gull**	16.6	19.84	6,600	1,095.60	0.301	Y	0.04	N
North Caithness Cliffs SPA								
Kittiwake	14.6	39.79	18,608	2,716.77	0.214	Y	1.17	Y
Troup, Pennan and Lion's Heads SPA								
Kittiwake	14.6	108.90	27,344	3,992.22	0.398	Y	6.04	Y
Herring gull**	16.6	1.35	1,108	183.93	0.122	Y	0.02	N
Copinsay SPA								
Kittiwake	14.6	2.15	670	97.82	0.321	Y	0.05	N
Great black-backed gull**	11.5	4.32	97	11.16	4.450	Y	0.04	N
Hoy SPA								
Kittiwake	14.6	1.29	608	88.77	0.231	Y	0.04	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Buchan Ness to Collieston Coast SPA								
Kittiwake	14.6	68.61	27,094	3,955.72	0.253	Y	1.86	Y
Herring gull**	16.6	6.13	4,536	752.98	0.135	Y	<0.01	N
Rousay SPA								
Kittiwake	14.6	5.58	962	140.45	0.580	Y	0.04	N
Marwick Head SPA								
Kittiwake	14.6	1.93	2,878	420.19	0.067	Y	0.09	N
Calf of Eday SPA								
Kittiwake	14.6	2.37	324	47.30	0.732	Y	0.02	N
West Westray SPA								
Kittiwake	14.6	38.43	8,004	1,168.58	0.480	Y	0.31	Y
Fowlsheugh SPA								
Kittiwake	14.6	92.04	40,156	5,862.78	0.229	Y	1.30	Y
Cape Wrath SPA								
Kittiwake	14.6	0.77	6,656	971.78	0.012	N	0.10	N
Sule Skerry and Sule Stack SPA								
Gannet (Guidance Approach to macro-avoidance)	8.1	1.31	15,648	1,267.49	0.008	N	0.25	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Fair Isle SPA								
Kittiwake	14.6	2.46	896	130.82	0.275	Y	0.02	N
Gannet (Guidance Approach to macro-avoidance)	8.1	1.65	11,184	905.90	0.015	N	0.18	N
Sumburgh Head SPA								
Kittiwake	14.6	0.71	691	100.89	0.103	Y	0.01	N
Foula SPA								
Kittiwake	14.6	1.05	1,193	174.18	0.088	Y	0.01	N
North Rona and Sula Sgeir SPA								
Kittiwake	14.6	0.08	1,424	207.90	0.005	N	0.01	N
Gannet (Guidance Approach to macro-avoidance)	8.1	0.85	18,990	1,538.19	0.004	N	0.12	N
Forth Islands SPA								
Kittiwake	14.6	26.51	14,216	2,075.54	0.186	Y	0.25	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	386.61	162,000	13,122.00	0.239	Y	2.05	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Noss SPA								
Kittiwake	14.6	1.60	154	22.48	1.036	Y	0.01	N
Gannet (Guidance Approach to macro-avoidance)	8.1	3.75	24,670	1,998.27	0.015	N	0.19	N
St Abb's Head to Fast Castle SPA								
Kittiwake	14.6	23.16	11,992	1,750.83	0.193	Y	0.18	N
Hermaness, Saxa Vord and Valla Field SPA								
Kittiwake	14.6	1.23	378	55.19	0.325	Y	0.01	N
Gannet (Guidance Approach to macro-avoidance)	8.1	6.48	39,606	3,208.09	0.016	N	0.19	N
Handa SPA								
Kittiwake	14.6	0.20	9,178	1,339.99	0.002	N	0.10	N
Shiant Isles SPA								
Kittiwake	14.6	0.04	2,318	338.43	0.002	N	0.01	N
Farne Islands SPA								
Kittiwake**	14.6	16.58	5,790	845.34	0.286	Y	0.04	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Flamborough and Filey Coast SPA								
Gannet (Guidance Approach to macro-avoidance)**	8.1	55.48	31,588	2,558.63	0.176	Y	0.02	N

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025. The following projects have been excluded for the all projects excluding consented projects that have made a commitment to compensation scenario: Berwick Bank OWF, Green Volt OWF, West of Orkney OWF, and Salamander for gannet. For kittiwake: Berwick Bank OWF, Green Volt OWF, West of Orkney OWF, Salamander, East Anglia THREE, East Anglia TWO, East Anglia ONE North, Hornsea Project Four OWF, Hornsea Project Three OWF, SEP & DEP, and Rampion 2 OWF have been excluded. There are no projects excluded for Herring gull since there are currently no Scottish or English projects compensating for this species. Great black-backed gull in-combination and cumulative totals are derived from West of Orkney OWF HRA and EIAR including the additional updates since submission with only West of Orkney excluded.

** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e., where both columns are marked with a Y). Where the threshold for PVA is met for collision or displacement alone for kittiwake and gannet PVA has only been run for these impacts combined.

Table 5-19: In-combination impacts from distributional response and collision combined for all projects excluding consented projects that have made a commitment to compensation (plus Caledonia South) when considering the 'Guidance Approach'.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
East Caithness Cliffs SPA								
Kittiwake	14.6	172.53 – 288.20	48,958	7,147.87	0.352 – 0.589	Y	9.54 - 11.42	Y
North Caithness Cliffs SPA								
Kittiwake	14.6	28.24 – 46.13	18,608	2,716.77	0.152 – 0.248	Y	1.30 - 1.56	Y
Troup, Pennan and Lion's Heads SPA								
Kittiwake	14.6	94.84 – 126.85	27,344	3,992.22	0.347 – 0.464	Y	6.69 - 8.00	Y
Copinsay SPA								
Kittiwake	14.6	1.33 – 2.39	670	97.82	0.199 – 0.357	Y	0.05 - 0.06	N
Hoy SPA								
Kittiwake	14.6	0.80 – 1.42	608	88.77	0.132 – 0.233	Y	0.04 - 0.05	N
Buchan Ness to Collieston Coast SPA								
Kittiwake	14.6	54.15 – 75.87	27,094	3,955.72	0.200 – 0.280	Y	2.07 - 2.49	Y

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Rousay SPA								
Kittiwake	14.6	3.36 – 6.06	962	140.45	0.350 – 0.630	Y	0.05 - 0.06	N
Marwick Head SPA								
Kittiwake	14.6	1.29 – 2.13	2,878	420.19	0.045 – 0.074	Y	0.10 - 0.12	N
Calf of Eday SPA								
Kittiwake	14.6	1.44 – 2.58	324	47.30	0.443 – 0.796	Y	0.02	N
West Westray SPA								
Kittiwake	14.6	23.40 – 42.01	8,004	1,168.58	0.292 – 0.525	Y	0.35 - 0.44	Y
Fowlsheugh SPA								
Kittiwake	14.6	92.51 – 131.15	40,156	5,862.78	0.230 – 0.327	Y	1.44 - 1.73	Y
Cape Wrath SPA								
Kittiwake	14.6	0.62 – 1.02	6,656	971.78	0.009 – 0.015	N	0.11 - 0.14	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Sule Skerry and Sule Stack SPA								
Gannet (Applicant Approach to macro-avoidance)	8.1	1.92 – 4.83	15,648	1,267.49	0.012 – 0.031	Y	0.20 – 0.44	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	2.76 – 5.67	15,648	1,267.49	0.018 – 0.036	Y	0.37 - 0.61	Y
Fair Isle SPA								
Kittiwake	14.6	1.50 – 2.68	896	130.82	0.167 – 0.299	Y	0.02 - 0.03	N
Gannet (Applicant Approach to macro-avoidance)	8.1	3.86 – 9.80	11,184	905.90	0.035 – 0.088	Y	0.16 – 0.36	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	4.61 – 10.55	11,184	905.90	0.041 – 0.094	Y	0.28 - 0.48	Y
Sumburgh Head SPA								
Kittiwake	14.6	0.45 – 0.77	691	100.89	0.065 – 0.111	Y	0.01	N
Foula SPA								
Kittiwake	14.6	0.64 – 1.14	1,193	174.18	0.054 – 0.096	Y	0.01 - 0.02	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
North Rona and Sula Sgeir SPA								
Kittiwake	14.6	0.05 – 0.08	1,424	207.90	0.004 – 0.006	N	0.01	N
Gannet (Applicant Approach to macro-avoidance)	8.1	2.00 – 5.21	18,990	1,538.19	0.011 – 0.027	Y	0.10 – 0.22	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	2.46 – 5.67	18,990	1,538.19	0.013 – 0.030	Y	0.18 - 0.30	Y
Forth Islands SPA								
Kittiwake	14.6	28.69 – 45.57	14,216	2,075.54	0.202 – 0.321	Y	0.28 - 0.34	Y
Gannet (Applicant Approach to macro-avoidance)	8.1	236.75 – 461.81	162,000	13,122.00	0.146 - 0.285	Y	1.92 – 4.40	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	499.14 – 724.20	162,000	13,122.00	0.308 – 0.447	Y	3.29 - 5.77	Y
Noss SPA								
Kittiwake	14.6	0.96 – 1.73	154	22.48	0.622 – 1.124	Y	0.01	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Gannet (Applicant Approach to macro-avoidance)	8.1	11.74 – 30.16	24,670	1,998.27	0.048 – 0.122	Y	0.20 – 0.46	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	12.96 – 31.37	24,670	1,998.27	0.053 – 0.127	Y	0.32 - 0.58	Y
St Abb's Head to Fast Castle SPA								
Kittiwake	14.6	22.41 – 34.65	11,992	1,750.83	0.187 – 0.289	Y	0.20 - 0.25	Y
Hermaness, Saxa Vord and Valla Field SPA								
Kittiwake	14.6	0.74 – 1.33	378	55.19	0.195 - 0.352	Y	0.01	N
Gannet (Applicant Approach to macro-avoidance)	8.1	24.18 – 62.45	39,606	3,208.09	0.061 – 0.158	Y	0.27 – 0.64	Y
Gannet (Guidance Approach to macro-avoidance)	8.1	25.97 – 64.94	39,606	3,208.09	0.066 – 0.164	Y	0.38 - 0.75	Y
Handa SPA								
Kittiwake	14.6	0.17 – 0.24	9,178	1,339.99	0.002 – 0.003	N	0.11 - 0.13	N

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Shiant Isles SPA								
Kittiwake	14.6	0.03 – 0.05	2,318	338.43	0.001 – 0.002	N	0.02	N
Farne Islands SPA								
Kittiwake**	14.6	15.82 – 17.52	5,790	845.34	0.273 – 0.303	Y	0.07 - 0.09	N
Flamborough and Filey Coast SPA								
Gannet (Applicant Approach to macro-avoidance)**	8.1	134.73 – 293.22	31,588	2,558.63	0.427 – 0.928	Y	0.08 – 0.20	Y
Gannet (Guidance Approach to macro-avoidance)**	8.1	145.70 – 304.19	31,588	2,558.63	0.461 – 0.963	Y	0.08 - 0.20	Y

* Annual Apportioned Predicted Mortality was calculated using the updated in-combination and cumulative totals for seabird species developed by the NEEOG. This dataset was provided to NatureScot on 08 July 2025 for review and NatureScot approval of the use of these values was received via email on 21 August 2025. The following projects have been excluded for the all projects excluding consented projects that have made a commitment to compensation scenario: Berwick Bank OWF, Green Volt OWF, West of Orkney OWF, and Salamander for gannet. For kittiwake: Berwick Bank OWF, Green Volt OWF, West of Orkney OWF, Salamander, East Anglia THREE, East Anglia TWO, East Anglia ONE North, Hornsea Project Four OWF, Hornsea Project Three OWF, SEP & DEP, and Rampion 2 OWF have been excluded for collision. For distributional response, the same Scottish projects have been excluded, while all English projects have been excluded since these projects do not assess distributional response.

** Species highlighted have only been assessed during the non-breeding season only (as outlined in Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and in agreement with NatureScot, email received on 07 August 2025). As such, Caledonia South alone annual contribution to mortalities presented are for the non-breeding season only. Caledonia South alone annual contribution to mortalities (non-breeding only) were then added to the breeding and non-breeding impacts of other plans and projects to give the annual apportioned predicted mortality.

Species	Adult Mortality Rate (%) (Horswill and Robinson, 2015[14])	Annual Apportioned Predicted Mortality*	Population Size (Breeding Adults)	Annual Background Mortality	Change in Average Survival Rate (% Point Change)	Threshold Reached for Undertaking PVA (≥0.02 % Point Change)	Caledonia South Alone Annual Contribution to Mortalities	Threshold reached for undertaking PVA in-combination (Caledonia South Alone Annual Contribution to Mortalities ≥0.2)
Note, cells where both the threshold is reached for undertaking PVA (≥0.02; marked as Y in the table) and threshold for undertaking PVA in-combination is reached (project alone annual contribution to mortalities (≥0.2; marked by Y in the table) indicate the sites and features taken through for in-combination PVA (i.e. where both columns are marked with a Y).								

5.5.3.1 In-combination assessments undertaken using the Applicant Approach (Table 5-8 to Table 5-13) and the Guidance Approach (Table 5-14 to Table 5-19) are presented for the two in-combination scenarios outlined within paragraph 5.5.1.2.

5.5.3.2 Where assessments undertaken for features and designated sites presented within Table 5-8 to Table 5-19, indicated impacts to be below the guidance threshold recommended for use of in-combination-level PVA (i.e., both the 0.02 percentage point change in adult survival rate and 0.2 project alone annual mortality), it can be concluded that the level of predicted impact from Caledonia South would not materially contribute to any in-combination effect. **Therefore, the potential for an AEoSI to the conservation objectives of all features and sites considered for Caledonia South in-combination during the operation and maintenance phase can be ruled out under the Applicant Approach and the Guidance Approach for these scenarios.**

5.5.3.3 Where assessments undertaken for features and designated sites presented within Table 5-8 to Table 5-19, indicated impacts to be above the guidance threshold recommended for use of in-combination-level PVA (i.e., both the 0.02 percentage point change in adult survival rate and 0.2 project alone annual mortality) further assessment of these features and designated sites is undertaken using PVA. In order to avoid repetition PVA outputs are presented within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) and updated assessment outcomes are outlined within Section 7.

5.5.3.4 As discussed in consultation (07 August 2025) all updated in-combination assessment outcomes presented in Section 7 are based on the following in-combination scenario:

- All projects excluding projects that have made a commitment to compensation (plus Caledonia South), outlined in Table 5-11 to Table 5-13 for the Applicant Approach and Table 5-17 to Table 5-19 for the Guidance Approach.

6 Population Viability Analysis

6.1 Overview

6.1.1.1 Since the submission of the Caledonia North and Caledonia South consent applications, requested updates have been made to HRA screening and apportioning for Caledonia South (as outlined in Section 1 and detailed within Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South)).

6.1.1.2 In line with the Request for Additional Information from MD-LOT (17 July 2025) and NatureScot's representations following submission (27 March 2025) updated PVA has been has been carried out based on the following updates (as outlined in Section 1 and detailed within Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)):

- PVA has been undertaken to account for the updates made to HRA Screening/HRA apportionment for Caledonia South; and
- Cumulative and in-combination PVA has also been undertaken separately for Caledonia North (Volume 8, Appendix 17: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia North)) and Caledonia South (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)) as requested and updated assessments are presented for Caledonia South (within Section 7), Caledonia North (Volume 8, Appendix 5: Ornithology Additional Information Report (Caledonia North)) and the Proposed Development (Offshore) (Volume 8, Appendix 4: Ornithology Additional Information Report (Caledonia OWF)).

6.2 PVA Methodology and Results

6.2.1.1 Caledonia South OWF alone PVA scenarios were modelled where impacts exceeded both the threshold for assessment (0.02 percentage point change in adult survival rate) (NatureScot, 2023[13]) and the impact change threshold (where the difference in the impacted adults apportioned to an SPA annually between submission impacts and updated impacts are greater than 0.5 of a bird as agreed in consultation with NatureScot, consultation meetings dated 04 June 2025 and 07 August 2025).

6.2.1.2 In-combination PVA scenarios were modelled where impacts exceeded both the threshold for undertaking PVA (0.02 percentage point change in adult survival rate) in line with NatureScot Guidance Note 11 (NatureScot, 2023[13]) and where the project alone annual contribution to in-combination mortalities are greater than 0.2 in line with NatureScot advice given to previous projects such as GreenVolt and Cenos OWFs.

6.2.1.3 Three sets of PVA outputs are presented where applicable for each species:

- Caledonia South Alone Applicant Approach and Guidance Approach where relevant;
- In-combination impacts for all projects where information is available (plus Caledonia South) for the Applicant Approach and Guidance Approach where relevant; and
- In-combination impacts for all projects excluding consented projects that have made a commitment to compensation (plus Caledonia South) (in this instance commitment to compensation refers to projects which have been awarded consent on the basis that any and all adverse effects on seabirds would be fully compensated) (for the Applicant Approach and Guidance Approach where relevant.

6.2.1.4 It is important to note that as discussed in consultation (07 August 2025) all updated in-combination assessment outcomes presented in Section 7 are based on the second scenario outlined above (i.e., all projects excluding projects that have made a commitment to compensation (plus Caledonia South).

6.2.1.5 Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South) provides further detail on how the PVA analysis was undertaken and presents PVA outputs for features and designated sites where PVA thresholds were met both project alone and in-combination with other plans and projects. Updated assessment outcomes are outlined within Section 7.

7 Conclusion and Summary of Outputs

7.1.1.1 Since the submission of the Caledonia North and Caledonia South consent applications, MD-LOT requested supplementary information from the Applicant. The Request for Additional Information was requested in order to provide clarity on a number of queries in relation to assessments on offshore and intertidal ornithology.

7.1.1.2 In line with the Request for Additional Information from MD-LOT (17 July 2025), NatureScot's representations following submission (27 March 2025) and consultation undertaken with NatureScot and MD-LOT since, HRA screening and apportionment has been carried out for Caledonia South (as outlined in Section 1 and detailed within Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South) and Volume 8, Appendix 12: Ornithology Apportioning Technical Report (Caledonia South)):

7.1.1.3 Within this additional information report, updated impacts for distributional responses and collision have been assessed (Section 5) for Caledonia South alone (Section 5.4) and in-combination with other plans and projects (Section 5.5).

7.1.1.4 Sites and features assessed for impacts (outlined within Volume 8, Appendix 9: Ornithology HRA Screening (Caledonia South)) from Caledonia South alone and in-combination with other plans and projects representing the 35-year PVA (Section 6) outputs are summarised in Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South).

7.1.1.5 Updated assessment conclusions for Caledonia South alone and in-combination with other plans and projects are presented in Table 7-1.

7.1.1.6 As outlined in Table 7-1, no AEoI was concluded for all sites designated for offshore and intertidal ornithology for Caledonia South alone; however, the following sites concluded AEoI in-combination with other plans and projects:

- **East Caithness Cliffs SPA for guillemot; distributional response effects in-combination with other plans and projects when considering the level of potential effect predicted from the Guidance approach;**
- **East Caithness Cliffs SPA for razorbill; distributional response effects in-combination with other plans and projects when considering the level of potential effect predicted from the Guidance approach;**
- **East Caithness Cliffs SPA for kittiwake; combined collision risk distributional response effects in-combination with other plans and projects;**

- **North Caithness Cliffs SPA for puffin; distributional response effects in-combination with other plans and projects when considering the level of potential effect predicted from the Guidance approach;**
- **Forth Islands SPA for gannet; combined collision risk and distributional response effects in-combination with other plans and projects;**
- **Buchan Ness to Collieston Coast SPA for kittiwake; combined collision risk and distributional response effects in-combination with other plans and projects (AEoSI could not be ruled out);**
- **Troup, Pennan and Lion's Head SPA for kittiwake; combined collision risk and distributional response effects in-combination with other plans and projects; and**
- **Troup, Pennan and Lion's Head SPA for guillemot; distributional response effects in-combination with other plans and projects when considering the level of potential effect predicted from the Guidance approach.**

Table 7-1: Updated assessment conclusions for Caledonia South from distributional responses and collision during the operational and maintenance phase to relevant designated sites and features.

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
HRA Caledonia South Alone				
East Caithness Cliffs SPA	Herring gull	Collision (non-breeding season only)	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Great black-backed gull	Collision (non-breeding season only)	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Guillemot	Distributional responses	No AEoSI	Applicant Approach: No AEoSI (As outlined in Section 5.4) Guidance Approach reached the threshold for PVA: PVA outputs predicted a 0.080% reduction in the growth rate annually at most (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), such a level of impact would have a limited effect on the overall trend or natural fluctuations in the population. Therefore, when considering population trends and the status of the SPA outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3), no potential for an AEoSI is concluded.
	Razorbill	Distributional responses	No AEoSI	No AEoSI (As outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	Guidance Approach reached the threshold for PVA: PVA outputs predicted a 0.026% reduction in the growth rate annually at most (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), such a level of impact would have a limited effect on the overall trend or natural fluctuations in the population. Therefore, when considering population trends and the status of the SPA outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3), no potential for an AEoSI is concluded.
North Caithness Cliffs SPA	Guillemot	Distributional responses	No AEoSI	Applicant Approach and lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.4) Upper end of the Guidance Approach reached the threshold for PVA: PVA outputs predicted a 0.041% reduction in the growth rate annually (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), such a level of impact would have a limited effect on the overall trend or natural fluctuations in the population. Therefore, when considering population trends and the status of the SPA outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3), no potential for an AEoSI is concluded.
	Razorbill	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Puffin	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Troup, Pennan and Lion's Heads SPA	Guillemot	Distributional responses	No AEoSI	Applicant Approach: No AEoSI (As outlined in Section 5.4) Guidance Approach reached the threshold for PVA: PVA outputs predicted a 0.082% reduction in the growth rate annually at most (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), such a level of impact would have a limited effect on the overall trend or natural fluctuations in the population. Therefore, when considering population trends and the status of the SPA outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3), no potential for an AEoSI is concluded.
	Razorbill	Distributional responses	No AEoSI	Applicant Approach and lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.4)

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
				Upper end of the Guidance Approach reached the threshold for PVA: PVA outputs predicted a 0.042% reduction in the growth rate annually (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), such a level of impact would have a limited effect on the overall trend or natural fluctuations in the population. Therefore, when considering population trends and the status of the SPA outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3), no potential for an AEoSI is concluded.
	Herring gull	Collision (non-breeding season only)	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	Guidance Approach reached the threshold for PVA: PVA outputs predicted a 0.035% reduction in the growth rate annually at most (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), such a level of impact would have a limited effect on the overall trend or natural fluctuations in the population. Therefore, when considering population trends and the status of the SPA outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3), no potential for an AEoSI is concluded.
Copinsay SPA	Great black-backed gull	Collision (non-breeding season only)	No AEoSI	Guidance Approach reached the threshold for PVA: PVA outputs predicted a 0.089% reduction in the growth rate annually (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), such a level of impact would have a limited effect on the overall trend or natural fluctuations in the population. As such a level of effect would be indistinguishable from natural fluctuations, no potential for an AEoSI is concluded.
	Guillemot	Distributional responses	No AEoSI	Applicant Approach and lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.4) Upper end of the Guidance Approach reached the threshold for PVA: PVA outputs predicted a 0.030% reduction in the growth rate annually (Volume 8, Appendix 18: Ornithology Population Viability Assessment (PVA) Technical Report (Caledonia South)), such a level of impact would have a limited effect on the overall trend or natural fluctuations in the population. Therefore, when considering population trends and the status of the SPA outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3), no potential for an AEoSI is concluded.
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Hoy SPA	Guillemot	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Puffin	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Buchan Ness to Collieston Coast SPA	Guillemot	Distributional responses	Not assessed previously	Applicant Approach and the lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.4) Upper end of the Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.033%; ▪ CPS: 1.162%; ▪ The stable population growth rate of 0.0% (mean annual % change since 2000; Burnell *et al.*, 2023[1]); and ▪ The favourable maintained condition of the feature.

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
	Herring gull	Collision (non-breeding season only)	Not assessed previously	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Rousay SPA	Guillemot	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Marwick Head SPA	Guillemot	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Calf of Eday SPA	Guillemot	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
West Westray SPA	Guillemot	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Razorbill	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Fowlsheugh SPA	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Cape Wrath SPA	Puffin	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Sule Skerry and Sule Stack SPA	Gannet	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Guillemot	Distributional responses	Not assessed previously	No AEoSI (as outlined in Section 5.4)
	Puffin	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
Fair Isle SPA	Gannet	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
	Guillemot	Distributional responses	Not assessed previously	No AEoSI (as outlined in Section 5.4)
	Razorbill	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Puffin	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Sumburgh Head SPA	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Foula SPA	Puffin	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
North Rona and Sula Sgeir SPA	Gannet	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Puffin	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
Forth Islands SPA	Gannet	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Puffin	Distributional responses	Not assessed previously	No AEoSI (as outlined in Section 5.4)
Noss SPA	Gannet	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Puffin	Distributional responses	No AEoSI	No AEoSI (as outlined in Section 5.4)
St Abb's Head to Fast Castle SPA	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Farne Islands SPA	Kittiwake	Distributional responses and collision combined (non-breeding season only)	No AEoSI	No AEoSI (as outlined in Section 5.4)

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
Hermaness, Saxa Vord and Valla Field SPA	Gannet	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Flamborough and Filey Coast SPA	Gannet	Distributional responses and collision combined (non-breeding season only)	No AEoSI	No AEoSI (as outlined in Section 5.4)
Handa SPA	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
Shiant Isles SPA	Kittiwake	Distributional responses and collision combined	No AEoSI	No AEoSI (as outlined in Section 5.4)
In-combination**				
East Caithness Cliffs SPA	Herring gull	Collision (non-breeding season only)	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Great black-backed gull	Collision (non-breeding season only)	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Guillemot	Distributional responses	**AEoSI when considering the upper range of the Guidance Approach**	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.169%; ▪ CPS: 5.898%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: **AEoSI** based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.451% - 0.854%; ▪ CPS: 15.011% - 26.559%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Razorbill	Distributional responses	No AEoSI	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.167%; ▪ CPS: 5.906%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: **AEoSI** based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.372% - 0.769%; ▪ CPS: 12.512% - 24.297%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
	Kittiwake	Distributional responses and collision combined	**AEoSI**	Guidance Approach reached the threshold for PVA: **AEoSI** based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.417% - 0.695%; ▪ CPS: 13.964% - 22.237%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
North Caithness Cliffs SPA	Guillemot	Distributional responses	No AEoSI	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.037%; ▪ CPS: 1.870%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.099% - 0.187%; ▪ CPS: 3.513% - 6.512%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Razorbill	Distributional responses	No AEoSI	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.048%; ▪ CPS: 1.726%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.055% - 0.160%; ▪ CPS: 2.024% - 5.803%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Puffin	Distributional responses	No AEoSI	Applicant Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Guidance Approach reached the threshold for PVA: AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.532% - 0.888%; ▪ CPS: 17.536% - 27.355%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ Caledonia South alone annual contribution to mortalities is two birds at most (1.30 – 1.56). ▪ CGR (reduction in the growth rate annually): 0.179% - 0.294%; ▪ CPS: 6.208% - 9.976%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
Troup, Pennan and Lion's Heads SPA	Guillemot	Distributional responses	No AEoSI	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.056%; ▪ CPS: 2.804%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3). Guidance Approach reached the threshold for PVA: **AEoSI** based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.112% - 0.245%; ▪ CPS: 3.961% - 8.454%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Razorbill	Distributional responses	No AEoSI	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.067%; ▪ CPS: 2.298%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable recovered condition of the feature. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.102% - 0.267%; ▪ CPS: 3.548% - 9.091%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable recovered condition of the feature.
	Herring gull	Collision (non-breeding season only)	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Kittiwake	Distributional responses and collision combined	**AEoSI**	Guidance Approach reached the threshold for PVA: **AEoSI** based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.409% - 0.548%; ▪ CPS: 13.780% - 17.973%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The unfavourable declining condition of the feature.
Copinsay SPA	Great black-backed gull	Collision (non-breeding season only)	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Guillemot	Distributional responses	No AEoSI	Applicant Approach and lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Upper end of the Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.034%; ▪ CPS: 1.285%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Hoy SPA	Guillemot	Distributional responses	No AEoSI	Applicant Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.023% - 0.043%; ▪ CPS: 1.157% - 2.216%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Puffin	Distributional responses	No in-combination assessment presented	Applicant Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.179% - 0.458%; ▪ CPS: 6.029% - 15.373%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Buchan Ness to Collieston Coast SPA	Guillemot	Distributional responses	No in-combination assessment presented	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.063%; ▪ CPS: 2.248%; ▪ When considering the stable population growth rate of 0.0% (mean annual % change since 2000; Burnell *et al*., 2023[1]); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.097% - 0.249%; ▪ CPS: 4.841% - 11.949%; ▪ When considering the stable population growth rate of 0.0% (mean annual % change since 2000; Burnell *et al*., 2023[1]); and ▪ The favourable maintained condition of the feature.
	Herring gull	Collision (non-breeding season only)	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Kittiwake	Distributional responses and collision combined	**AEoSI**	Guidance Approach reached the threshold for PVA: **AEoSI cannot be ruled out** based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.236% - 0.331%; ▪ CPS: 8.165% - 11.261%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The unfavourable condition of the feature.
Rousay SPA	Guillemot	Distributional responses	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Marwick Head SPA	Guillemot	Distributional responses	No AEoSI	Applicant Approach and the lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Upper end of the Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.042%; ▪ CPS: 1.484%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Calf of Eday SPA	Guillemot	Distributional responses	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
West Westray SPA	Guillemot	Distributional responses	No AEoSI	Applicant Approach and the lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Upper end of the Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.026%; ▪ CPS: 0.963%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Razorbill	Distributional responses	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	Guidance Approach reached the threshold for PVA: No AEoSI out based on the information outlined below: ▪ Caledonia South alone annual contribution to mortalities is less than one bird. ▪ CGR (reduction in the growth rate annually): 0.345% - 0.618%; ▪ CPS: 11.692% - 20.005%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
Fowlsheugh SPA	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ Caledonia South alone annual contribution to mortalities is two birds at most (1.44 – 1.73). ▪ CGR (reduction in the growth rate annually): 0.273% - 0.386%; ▪ CPS: 9.316% - 12.988%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
Cape Wrath SPA	Puffin	Distributional responses	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Sule Skerry and Sule Stack SPA	Gannet	Distributional responses and collision combined	No in-combination assessment presented	Applicant Approach and the lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Upper end of the Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.043%; ▪ CPS: 1.563%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Guillemot	Distributional responses	No in-combination assessment presented	Applicant Approach and the lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Upper end of the Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 1.039%; ▪ CPS: 31.365%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Puffin	Distributional responses	**AEoSI when considering the Guidance Approach**	Applicant Approach and the lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Upper end of the Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.024%; ▪ CPS: 0.870%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
Fair Isle SPA	Gannet	Distributional responses and collision combined	No in-combination assessment presented	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.045%; ▪ CPS: 1.660%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.049% - 0.103%; ▪ CPS: 1.686% - 3.640%;

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
				▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Guillemot	Distributional responses	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Razorbill	Distributional responses	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Puffin	Distributional responses	No AEoSI	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.040%; ▪ CPS: 1.378%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3). Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.109% - 0.211%; ▪ CPS: 3.878% - 7.418%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Sumburgh Head SPA	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Foula SPA	Puffin	Distributional responses	No AEoSI	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.041%; ▪ CPS: 1.508%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3). Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.054% - 0.145%; ▪ CPS: 1.864% - 5.121%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
North Rona and Sula Sgeir SPA	Gannet	Distributional responses and collision combined	No in-combination assessment presented	Applicant Approach and the lower end of the Guidance Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Upper end of the Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.035%; ▪ CPS: 1.294%;

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
				▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Puffin	Distributional responses	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Forth Islands SPA	Gannet	Distributional responses and collision combined	**AEoSI**	Applicant Approach reached the threshold for PVA: **AEoSI** based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.174%; ▪ CPS: 6.059%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: **AEoSI** based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.365% - 0.529%; ▪ CPS: 12.341% - 17.399%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ Caledonia South alone annual contribution to mortalities is less than one bird. ▪ CGR (reduction in the growth rate annually): 0.238% - 0.379%; ▪ CPS: 8.207% - 12.812%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
	Puffin	Distributional responses	No in-combination assessment presented	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.081%; ▪ CPS: 2.907%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.202% - 0.400%; ▪ CPS: 7.028% - 13.413%; ▪ When considering population trends outlined in Burnell *et al*., 2023[1]; and ▪ The favourable maintained condition of the feature.
Noss SPA	Gannet	Distributional responses and collision combined	No in-combination assessment presented	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.058%; ▪ CPS: 2.059%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
				Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.064% - 0.151%; ▪ CPS: 2.229% - 5.267%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
	Puffin	Distributional responses	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
St Abb's Head to Fast Castle SPA	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ Caledonia South alone annual contribution to mortalities is less than one bird. ▪ CGR (reduction in the growth rate annually): 0.221% - 0.341%; ▪ CPS: 7.602% - 11.601%; and ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
Farne Islands SPA	Kittiwake	Distributional responses and collision combined (non-breeding season only)	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Hermaness, Saxa Vord and Valla Field SPA	Gannet	Distributional responses and collision combined	No AEoSI	Applicant Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.072%; ▪ CPS: 2.590%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ CGR (reduction in the growth rate annually): 0.077% - 0.195%; ▪ CPS: 2.741% - 6.781%; ▪ When considering population trends outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3); and ▪ The favourable maintained condition of the feature.
	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Flamborough and Filey Coast SPA	Gannet	Distributional responses and collision combined (non-breeding season only)	No in-combination assessment presented	Applicant Approach: No AEoSI (As outlined in Section 5.5) based on the all projects excluding projects that have made a commitment to compensation in-combination scenario. Guidance Approach reached the threshold for PVA: No AEoSI based on the information outlined below: ▪ Caledonia South only has the potential for functional linkage to the Flamborough and Filey Coast SPA during the non-breeding season only. As such, this species has only been assessed during the non-breeding season (in agreement with NatureScot, via email dated 07 August 2025); ▪ Caledonia South alone annual contribution (i.e. during the breeding season only for this assessment) to mortalities is less than one bird (0.08 – 0.20); and

Designated Site	Species	Impact	Assessment Conclusion at Submission	Updated Assessment Conclusion*
				▪ When considering population trends and the condition of the feature outlined in Application Document 14: Report to Inform Appropriate Assessment (Part 3).
Handa SPA	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)
Shiant Isles SPA	Kittiwake	Distributional responses and collision combined	No in-combination assessment presented	No AEoSI (as outlined in Section 5.5)

* Information relating to population trends and the status of an SPA is only presented for features of designated sites where this information was not presented within the Caledonia North and Caledonia South applications.

** Conclusions for in-combination assessments are based upon the following scenario: All projects excluding projects that have made a commitment to compensation (plus Caledonia South) (in this instance commitment to compensation refers to projects which have been awarded consent on the basis that any and all adverse effects on seabirds would be fully compensated).

Annex 1 – Seasonal Caledonia South Alone impacts

Kittiwake

Annex Table 1: Kittiwake project alone impacts for Caledonia South from distributional responses seasonally when considering the 'Guidance Approach'.

Designated Site	Breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)		Non-breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)	
	30%; 1%	30%; 3%	30%; 1%	30%; 3%
East Caithness Cliffs SPA	0.87	2.61	0.07	0.22
North Caithness Cliffs SPA	0.11	0.34	0.02	0.06
Troup, Pennan and Lion's Heads SPA	0.63	1.88	0.03	0.08
Copinsay SPA	<0.01	0.01	<0.01	<0.01
Hoy SPA	<0.01	0.01	<0.01	<0.01
Buchan Ness to Collieston Coast SPA	0.18	0.55	0.02	0.07
Rousay SPA	<0.01	0.01	<0.01	0.01
Marwick Head SPA	0.01	0.03	<0.01	<0.01
Calf of Eday SPA	<0.01	<0.01	<0.01	<0.01
West Westray SPA	0.02	0.06	0.02	0.07
Fowlsheugh SPA	0.13	0.38	0.02	0.05
Cape Wrath SPA	0.01	0.03	<0.01	<0.01
Fair Isle SPA	<0.01	<0.01	<0.01	<0.01
Sumburgh Head SPA	<0.01	<0.01	<0.01	<0.01
Foula SPA	<0.01	<0.01	<0.01	<0.01
North Rona and Sula Sgeir SPA	<0.01	<0.01	<0.01	<0.01
Forth Islands SPA	0.02	0.07	0.01	0.02
Noss SPA	<0.01	<0.01	<0.01	<0.01
St Abb's Head to Fast Castle SPA	0.02	0.05	0.01	0.02

Designated Site	Breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)		Non-breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)	
	30%; 1%	30%; 3%	30%; 1%	30%; 3%
Hermaness, Saxa Vord and Valla Field SPA	<0.01	<0.01	<0.01	<0.01
Handa SPA	0.01	0.03	<0.01	<0.01
Shiant Isles SPA	<0.01	<0.01	<0.01	<0.01
Farne Islands SPA	-	-	0.01	0.02

Annex Table 2: Kittiwake project alone impacts for Caledonia South from collision seasonally when considering the 'Guidance Approach'.

Designated Site	Breeding Season Apportioned Predicted Mortality	Non-breeding Season Apportioned Predicted Mortality
East Caithness Cliffs SPA	8.14	0.45
North Caithness Cliffs SPA	1.05	0.11
Troup, Pennan and Lion's Heads SPA	5.87	0.17
Copinsay SPA	0.04	0.01
Hoy SPA	0.03	<0.01
Buchan Ness to Collieston Coast SPA	1.72	0.14
Rousay SPA	0.02	0.02
Marwick Head SPA	0.08	0.01
Calf of Eday SPA	0.01	0.01
West Westray SPA	0.18	0.13
Fowlsheugh SPA	1.19	0.10
Cape Wrath SPA	0.10	<0.01
Fair Isle SPA	0.01	0.01
Sumburgh Head SPA	0.01	<0.01
Foula SPA	0.01	<0.01
North Rona and Sula Sgeir SPA	0.01	<0.01
Forth Islands SPA	0.22	0.03
Noss SPA	<0.01	0.01
St Abb's Head to Fast Castle SPA	0.14	0.04
Hermaness, Saxa Vord and Valla Field SPA	<0.01	<0.01
Handa SPA	0.10	<0.01
Shiant Isles SPA	0.01	<0.01
Farne Islands SPA	-	0.04

Guillemot

Annex Table 3: Guillemot project alone impacts for Caledonia South from distributional responses seasonally when considering the 'Guidance Approach' and 'Applicant Approach'.

Designated Site	Breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)			Non-breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)		
	50%; 1%	60%; 3%	60%; 5%	50%; 1%	60%; 1%	60%; 3%
East Caithness Cliffs SPA	19.56	70.42	117.36	6.95	8.34	25.01
North Caithness Cliffs SPA	2.47	8.89	14.82	2.16	2.59	7.77
Troup, Pennan and Lion's Heads SPA	4.82	17.35	28.91	1.66	1.99	5.97
Copinsay SPA	0.03	0.12	0.20	0.05	0.05	0.16
Hoy SPA	0.37	1.34	2.23	0.57	0.68	2.04
Buchan Ness to Collieston Coast SPA	1.16	4.18	6.97	1.42	1.70	5.10
Rousay SPA	0.09	0.32	0.53	0.28	0.33	0.99
Marwick Head SPA	0.16	0.59	0.98	0.44	0.53	1.60
Calf of Eday SPA	0.09	0.31	0.52	0.26	0.31	0.93
West Westray SPA	0.42	1.50	2.50	1.52	1.82	5.46
Sule Skerry and Sule Stack SPA	0.11	0.41	0.68	0.50	0.60	1.79
Fair Isle SPA	0.16	0.58	0.96	0.85	1.02	3.07

Razorbill

Annex Table 4: Razorbill project alone impacts for Caledonia South from distributional responses seasonally when considering the 'Guidance Approach' and 'Applicant Approach'.

Designated Site	Breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)			Non-breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)		
	50%; 1%	60%; 3%	60%; 5%	50%; 1%	60%; 1%	60%; 3%
East Caithness Cliffs SPA	1.94	6.99	11.64	0.17	0.20	0.61
North Caithness Cliffs SPA	0.21	0.76	1.26	0.02	0.03	0.08
Troup, Pennan and Lion's Heads SPA	0.44	1.57	2.62	0.02	0.03	0.09
West Westray SPA	0.01	0.05	0.09	0.01	0.01	0.03
Fair Isle SPA	0.01	0.03	0.05	0.01	0.01	0.04

Puffin

Annex Table 5: Puffin project alone impacts for Caledonia South from distributional responses seasonally when considering the 'Guidance Approach' and 'Applicant Approach'.

Designated Site	Breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)			Non-breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)		
	50%; 1%	60%; 3%	60%; 5%	50%; 1%	60%; 1%	60%; 3%
North Caithness Cliffs SPA	0.05	0.44	0.73	0.01	0.01	0.02
Hoy SPA	0.01	0.08	0.14	0.04	0.02	0.06
Cape Wrath SPA	<0.01	0.02	0.03	<0.01	<0.01	<0.01
Sule Skerry and Sule Stack SPA	0.26	2.23	3.72	<0.01	<0.01	0.01
Fair Isle SPA	0.06	0.52	0.87	0.12	0.06	0.19
Foula SPA	0.03	0.26	0.43	0.25	0.13	0.40
North Rona and Sula Sgeir SPA	0.01	0.06	0.09	<0.01	<0.01	<0.01
Forth Islands SPA	0.59	4.96	8.27	2.31	1.24	3.71
Noss SPA	<0.01	0.01	0.02	0.01	<0.01	0.01

Gannet

Annex Table 6: Gannet project alone impacts for Caledonia South from distributional responses seasonally when considering the 'Guidance Approach' and 'Applicant Approach'.

Designated Site	Breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)		Non-breeding Season Apportioned Predicted Mortality (Displacement Rate; Mortality Rate)	
	70%; 1%	70%; 3%	70%; 1%	70%; 3%
Sule Skerry and Sule Stack SPA	0.12	0.35	<0.01	0.01
Fair Isle SPA	0.08	0.25	0.02	0.05
North Rona and Sula Sgeir SPA	0.06	0.17	0.01	0.02
Forth Islands SPA	0.93	2.78	0.31	0.93
Noss SPA	0.09	0.26	0.04	0.13
Hermaness, Saxa Vord and Valla Field SPA	0.08	0.23	0.11	0.33
Flamborough and Filey Coast SPA	-	-	0.06	0.19

Annex Table 7: Gannet project alone impacts for Caledonia South from collision seasonally when considering the 'Guidance Approach' and 'Applicant Approach'.

Designated Site	Breeding Season Apportioned Predicted Mortality		Non-breeding Season Apportioned Predicted Mortality	
	Applicant Approach to Macro-avoidance	Guidance Approach to Macro-avoidance	Applicant Approach to Macro-avoidance	Guidance Approach to Macro-avoidance
Sule Skerry and Sule Stack SPA	0.07	0.25	<0.01	<0.01
Fair Isle SPA	0.05	0.18	0.01	0.01
North Rona and Sula Sgeir SPA	0.04	0.12	<0.01	<0.01
Forth Islands SPA	0.59	1.96	0.09	0.09
Noss SPA	0.05	0.18	0.01	0.01
Hermaness, Saxa Vord and Valla Field SPA	0.05	0.16	0.03	0.03
Flamborough and Filey Coast SPA	-	-	0.02	0.02

Great Black-backed Gull

Annex Table 8: Great black-backed gull project alone impacts for Caledonia South from collision seasonally.

Designated Site	Non-breeding Season Apportioned Predicted Mortality
East Caithness Cliffs SPA	0.03
Copinsay SPA	0.04
Note, species assessed for the non-breeding season only, approach agreed with NatureScot via email on 07 August 2025.	

Herring Gull

Annex Table 9: Herring gull project alone impacts for Caledonia South from collision seasonally.

Designated Site	Non-breeding Season Apportioned Predicted Mortality
East Caithness Cliffs SPA	0.04
Buchan Ness to Collieston SPA	0.04
Troup, Pennan and Lion's Head SPA	0.02
Note, species assessed for the non-breeding season only, approach agreed with NatureScot via email on 07 August 2025.	

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