

Morven South Offshore Wind Array Project

Habitats Regulations Appraisal

Volume 2, Chapter 3: Report to Inform Appropriate Assessment Part 3: SPA and Ramsar Site Assessments

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1 Introduction

1.1 The purpose of this Report to Inform Appropriate Assessment

1.1.1.1 This Report to Inform Appropriate Assessment (RIAA) has been prepared by TetraTech RPS Energy Limited and NIRAS, on behalf of Morven Offshore Wind Limited (MvOWL) (hereafter referred to as the 'Applicant'). The purpose of this RIAA is to support the Habitats Regulations Appraisal (HRA) required under the Habitats Regulations[1] for the Morven South Offshore Wind Farm (hereafter referred to as 'Morven South').

1.1.1.2 The RIAA builds upon Volume 1, Chapter 1: Morven Option Lease Agreement Site: HRA Stage 1 Screening Report (hereafter referred to as 'Morven Site HRA Screening Report') and the Likely Significant Effects (LSE[2]) re-screening exercise (see Volume 2, Chapter 1: RIAA Part 1: Introduction (hereafter 'RIAA Part 1')) to assesses whether Morven South could have an adverse effect, either alone, or in-combination with other plans or projects, on the integrity of relevant European sites. This report will provide the Competent Authority with the information required to undertake an HRA Stage 2 Appropriate Assessment.

1.1.1.3 The scope of this Morven South RIAA covers all relevant European sites and designated features where the potential for LSE[2] could not be ruled out due to the potential impacts arising from Morven South. This includes both 'offshore' European sites and features (seaward of Mean High Water Springs (MHWS)), and potential impacts of offshore infrastructure on 'onshore' European sites (landward of Mean Low Water Springs (MLWS)).

1.2 Structure of the Report to Inform Appropriate Assessment

1.2.1.1 This RIAA has been reported in three 'Parts', which are structured as follows:

- Volume 2, Chapter 1: Report to Inform Appropriate Assessment Part 1: Introduction;
- Volume 2, Chapter 2: Report to Inform Appropriate Assessment Part 2: Special Area of Conservation (SAC) Assessments;
- Volume 2, Chapter 3: Report to Inform Appropriate Assessment Part 3: Special Protection Area (SPA) and Ramsar site Assessments (this document).

1.3 Structure of this document

1.3.1.1 As stated in paragraph 1.2.1.1, this document constitutes Part 3 of the RIAA and presents the assessment of whether Morven South could have an adverse effect on the integrity of relevant European sites.

1.3.1.2 This document is structured as follows:

- Section 1: Introduction, which details the purpose and structure of the RIAA;
- Section 2: Consultation, which provides a summary of relevant consultation undertaken to date, the responses provided and how these have been addressed within this Part of the RIAA;
- Section 3: Summary of HRA Stage 1 LSE[2] Screening Conclusions for SPAs and Ramsar sites;
- Section 4: Information to inform the Appropriate Assessment, which includes the Maximum Design Scenario (MDS), information on designed-in measures, an outline of the approach taken to baseline data, conservation objectives, and the in-combination assessment;

[1] The collective term for The Conservation (Natural Habitats, & C.) Regulations 1994, The Conservation of Habitats and Species Regulations 2017, and the Conservation of Offshore Marine Habitats and Species 2017.

- Section 5: Assessment of adverse effects on integrity on European sites designated for ornithological features, both alone and in-combination with other plans and projects;
- Section 6: Summary of this Part of the RIAA.

1.3.1.3 The following documents are also relevant to this Part of the RIAA:

- Volume 2, Annex 3.1: RIAA: Apportioning;
- Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

2 Consultation

2.1.1.1 Consultation has been undertaken with statutory stakeholders with regards to the ornithological features of SPAs and Ramsar sites. A summary of all relevant consultation undertaken to date is presented in Table 2.1. The consultation summaries provided in Table 2.1 focus on those elements specific to the HRA process for ornithological interests. Consultation specific to underlying methodologies (e.g. site specific surveys or analytical approaches) is provided in Volume 2, Chapter 11: Offshore Ornithology, of the Environmental Impact Assessment (EIA) Report.

Table 2.1: Summary of key consultation relevant to Part 3 of the Report to Inform Appropriate Assessment

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
3 July 2023	NatureScot	NatureScot – email correspondence	The consultation aimed to clarify NatureScot's guidance on Offshore Ornithology Impact Pathways for Offshore Wind Developments, specifically regarding alternative approaches to biological defined minimum population scale (BDMPS) for assessing cumulative impacts on guillemots and razorbills during the non-breeding season. The Applicant asked NatureScot to provide details on what "other agreed approaches" meant in the Guidance Note, beyond BDMPS, for cumulative assessment of guillemots and razorbills in the non-breeding season. • NatureScot's Position on Guillemots: advised against using BDMPS for guillemot cumulative assessment in the non-breeding season. Instead, recommended applying the breeding season approach of mean-max foraging range plus one standard deviation, based on Buckingham et al. (2022) tracking data. • NatureScot's Position on Razorbills: For razorbills, NatureScot confirmed that the BDMPS region remains	No	The Applicant has agreed a bespoke approach for guillemot based on additional pre-application consultation undertaken in October 2025. For razorbill the approach proposed by NatureScot has been followed

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			appropriate for screening cumulative impacts during the non-breeding season. NatureScot clarified that for guillemots, the alternative agreed approach is the breeding season foraging range method (mean-max + 1 SD), while for razorbills, the existing BDMPS region should continue to be used for cumulative impact screening in the non-breeding season.		
24 August 2023	NatureScot	Advice on the Scoping Report for the Morven Option Lease Agreement Site (hereafter 'the Morven Site Scoping Report')	NatureScot expect apportioning during the breeding season to be undertaken following the NatureScot theoretical approach (NatureScot, 2018), with the exception of kittiwake, guillemot, razorbill and shag, where the apportioning tool developed by Marine Scotland should be used (Butler *et al.,* 2020).	No	Apportioning for all species has used the approach described in NatureScot (2018) as the Butler *et al.,* (2020) is currently unavailable, this was agreed with NatureScot during further consultation in March 2024. Please see in Volume 2, Annex 3.1: RIAA: Apportioning for a detailed description of the methodology applied.
			NatureScot advise that an explanation of how birds recorded to species groups will be attributed to species level and how accounting for availability bias will be carried out should be provided prior to submission of the EIA Report. Regarding availability bias, NatureScot expect that species-specific correction factors are applied to the number of each auk species recorded on the sea's surface. They accept factors from Thaxter *et al.* (2010) for guillemot and	No	Birds only identified at a species group level have been attributed to species level using the standard ratio approach as detailed in Volume 3, Annex 11.1: Offshore Ornithology Baseline Characterisation Report of the EIA Report and incorporated into the calculation of abundance estimates presented throughout the application. Please see Volume 3, Annex 11.1: Offshore Ornithology Baseline Characterisation Report of the EIA Report for further information. Availability bias has also been incorporated into the

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			razorbill, from Spencer (2012) for puffin, and using Barlow *et al.* (1988).		calculation of abundance metrics for relevant species using correction factors from the references provided by NatureScot.
			Regarding Population Viability Analysis (PVA), NatureScot note a clarification of the wording in their Guidance Note 11, Section 2.1: 'We advise that the impacts of collision and distributional responses, such as displacement, will need to be considered in the context of relevant SPA breeding colonies particularly where the assessed effects result in a decrease to the adult annual survival rate of 0.02 percentage point change or higher.'	No	The assessments presented in this RIAA Part 3 follow this approach.
24 August 2023	Natural England	Advice on Morven Site HRA Screening Report within the Morven Option Lease Agreement Site Scoping Opinion (hereafter 'Morven Site Scoping Opinion')	Natural England advises that guillemot from the Farne Islands SPA and the Flamborough and Filey Coast SPA should be screened in for potential impacts during the non-breeding season. Whilst Natural England advises that to assess the potential impacts on the Farne Islands SPA and Flamborough and Filey Coast SPA guillemot in the non-breeding season, the traditional approach of apportioning birds to the relevant SPA using the BDMPS populations as prescribed by Furness (2015) should be used.	No	Calculation of impacts following Natural England's advice is provided in Volume 3, Annex 5.2: Offshore Ornithology Impact Estimates using Natural England Approaches, of the EIA Report and includes consideration of the Farne Islands SPA and Flamborough and Filey Coast SPA.
25 August 2023	RSPB Scotland		RSPB Scotland welcomes the use of foraging ranges from Woodward *et al.*, (2019) to derive connectivity with SPA	No	The Stage 1 screening process applied in the Morven Site HRA Screening Report and the subsequent update to this process

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
		RSPB Scotland: Response to Morven Site Scoping Report	colonies, and also recommend that site specific data is examined and site specific values are used where they exceed generic values. The exceptions to this are guillemot and razorbill. In the case of these species, for all designated sites south of the Pentland Firth, the RSPB advise using the mean max (MM) plus one standard deviation (SD) discounting Fair Isle values.		provided in RIAA Part 1 aligns with the approach suggested by the RSPB
			RSPB Scotland raises issues with the bio-season definitions from Furness (2015) with regards to gannet and kittiwake. The issue raised is that the 'migration-free' seasonal definition excludes the early and later months of the season that would be included in a full breeding season.	No	Following the advice of MD-LOT and NatureScot, the breeding season for all species has been defined based on the seasonal definitions provided in NatureScot (2018) which have more correspondence with the full breeding season as defined by Furness (2015) and therefore follow the advice of RSPB Scotland. Please also see additional pre-application consultation with NatureScot in this table below which specifically deals with the seasonal extents defined for guillemot and razorbill.
27 March 2024	NatureScot	Response to request for further advice on receipt of the Morven Site Scoping Opinion	NatureScot agree that until the Butler tool is updated as part of the Cumulative Effects Framework, to enable Seabirds Count data to be utilised, the tool cannot be used. Instead, NatureScot suggest a theoretical apportioning approach should be applied, and that apportioning allocated to sites with sufficient tagging	No	The apportioning approach applied for Morven South is detailed in Volume 2, Annex 3.1: RIAA: Apportioning and follows the approach recommended in NatureScot (2018) and incorporates further advice provided by NatureScot on 28 January 2025 and 28 May 2025.

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			data may be re-apportioned depending on the results of tracking analysis. NatureScot refer to their interim guidance note on apportioning (NatureScot, 2018).		
28 January 2025	NatureScot	Ornithology Advice Pre-application Consultation	NatureScot support the approach to apportioning using their *Interim Guidance on apportioning impacts from marine renewable developments to breeding seabird populations in SPAs* note NatureScot (2018) and Seabirds Count data. NatureScot would welcome discussion about North East and East Ornithology Group work about how to consider puffin in the non-breeding season, once the results are available. NatureScot note that puffin were recorded in Morven DAS in the non-breeding season, and that it will therefore be important to consider puffin in the non-breeding season for Morven. They expect project alone and cumulative assessments to be undertaken for non-breeding seasons.	No	The methodology applied and results of the apportioning approach applied for Morven South are provided in Volume 2, Annex 3.1: RIAA: Apportioning. The approach applied follows NatureScot guidance. Impacts on puffin are considered in all seasons, where relevant, in Section 5.4 and Section 5.5. Work exploring impacts on puffin in the non-breeding season is ongoing through the North East and East Ornithology Group but will not be completed in time for inclusion in the assessments presented in this RIAA Part 3.
			NatureScot have reservations regarding the approach to estimate the proportion of immature birds present of a number of species during site specific surveys in the breeding season. However, they accept its use dependent on sufficiently good identification rates for the specific	No	The methodology applied and results of the apportioning approach applied for Morven South are provided in Volume 2, Annex 3.1: RIAA: Apportioning including in relation to the estimation of the proportion of immature birds. Two approaches are presented including NatureScot's

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			immature age classes and that the results are not less precautionary than the standard approach (i.e. equal or higher adult proportions), and would welcome confirmation of this.		advocated approach (i.e. using the immature proportions from Furness (2015)) which is applied as part of NatureScot's approach in this RIAA Part 3.
			NatureScot advise that immature birds should be removed when undertaking breeding season apportioning of impacts to SPAs. NatureScot recommend the following adult proportion rates, derived using a stable age proportion and taken from Furness (2015), should be used: kittiwake – 0.53; guillemot/razorbill - 0.57; puffin - 0.55; gannet - 0.55; fulmar – 0.62; great black-backed gull - 0.44; great skua - 0.41. When apportioning breeding season impacts from Morven South to SPAs, NatureScot advise sabbatical birds should also be removed using the following rates: large gulls – 0.35; kittiwake - 0.1; auks - 0.07; gannet - 0.1; shag - 0.35. During the non-breeding season sabbatical birds do not need to be removed, as all birds are non-breeders. In summary, NatureScot advise that breeding season mortalities should first be multiplied by the adult proportion and then by (1 – sabbatical rate) to provide	No	The methodology applied and results of the apportioning approach applied for Morven South are provided in Volume 2, Annex 3.1: RIAA: Apportioning. The approach applied includes the estimation of the proportion of immature birds based on NatureScot guidance.

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			the number of mortalities to breeding adults.		
			NatureScot provide an Annex describing their current advice for PVA. For project alone impacts, the Annex describes how PVA is required for all sites and species where the project alone impacts equal or exceed a 0.02 percentage point change in combined breeding and non-breeding season adult survival rate. For in-combination impacts, the Annex describes how PVA is generally required where in-combination impacts equal or exceed a 0.02 percentage point change in combined breeding and non-breeding season adult survival rate. The exception to this is where the project contribution to the in-combination impact is less than 0.2 birds per annum.	No	The methodology applied and results of population modelling conducted for Morven South are provided in Volume 2, Annex 3.2: RIAA: Population Viability Analysis and follows NatureScot guidance.
5 March 2025	NatureScot, MD-LOT	Consultation meeting with NatureScot titled 'HRA Derogation Consultation - Identification of Predator Control Measures'	This meeting aimed to discuss the identification of Valued Ornithological Receptors (VORs) for Morven North/South. The consultation sought feedback from NatureScot and MD-LOT on baseline ornithology reports, seasonal definitions, cumulative impact assessment scenarios, and compensation measures.	No	The Applicant has followed NatureScot's advice in relation to seasonal definitions for guillemot throughout the assessments presented in this report.

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			NatureScot noted peaks in guillemot and razorbill abundance may relate to post-breeding dispersal. They advised reviewing fledging dates and considering adjustments to seasonal definitions, such as adding a post-breeding dispersal period.		
28 May 2025	NatureScot	Consultation meeting with NatureScot titled 'Morven North and South HRA consultation'	It was noted that predicted impacts for guillemot were driven by increased populations in July and August. The Applicant had defined a post-breeding season for guillemot following previous NatureScot advice and had applied the same apportioning in the post-breeding season as advised for the non-breeding season. NatureScot confirmed that July should be incorporated into the post-breeding season for guillemot due to the high populations recorded during site specific surveys. NatureScot agreed with the application of the apportioning approach in the non-breeding season to the post-breeding season.	No	The Applicant has followed NatureScot's advice in relation to seasonal definitions for guillemot throughout the assessments presented in this RIAA.
23 June 2025	NatureScot	Email correspondence	The Applicant provided NatureScot with preliminary outputs from the SeabORD analysis used to quantify displacement impacts. The Applicant requested NatureScot's advice in relation to the use of these outputs in the assessments required for Morven North and Morven South.	No	The Applicant has used the outputs from the displacement matrix approach for all species and seasons throughout the assessments presented and has provided outputs from the SeabORD modelling approach in Volume 3, Annex 11.5: Offshore Ornithology Displacement Modelling Report (SeabORD), of the EIA Report.

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			NatureScot responded stating that SeabORD outputs should be presented to provide additional context to the displacement assessment, but the matrix approach should be used as the main assessment method for all species and seasons.		
11 July 2025	NatureScot	Email correspondence	The Applicant requested advice in relation to the impact pathways that should be considered for fulmar. NatureScot advised that displacement and attraction to light should be considered for fulmar.	Yes	Potential impacts from displacement have been considered for fulmar as a qualifying feature for all SPAs for which LSE was originally identified in the Morven Site HRA Screening Report. In addition, fulmar, as a qualifying feature at relevant SPAs has also been considered in relation to attraction to light.
21 July 2025	MD-LOT	Email correspondence	MD-LOT confirmed that approach to the whole project, Morven Programme and cumulative assessment, as set out within MvOWL's targeted consultation letter dated 13 March 2025, was likely to be acceptable, subject to NatureScot's agreement. MD-LOT confirmed the cut-off dates for the consideration of new or updated information for plans projects and activities within cumulative assessments should be six months prior to application submission for quantitative assessment and three months for qualitative cumulative assessment.	No	Cut-off dates for the qualitative and quantitative assessments were implemented as agreed with MD-LOT The whole project, Morven Programme and cumulative assessment approach is set out in Sections 4.6 and 5.5.

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
30 July 2025	NatureScot	Letter	The Applicant provided NatureScot with a summary of the re-screening exercise undertaken to account for the separation of the whole Morven project into Morven North and Morven South as detailed in RIAA Part 1.	Yes	The RIAA Part 3 incorporates all SPAs and associated qualifying features for which LSE was identified in the RIAA Part 1.
18 August 2025	NatureScot and MD-LOT	Consultation meeting with NatureScot titled 'Morven CEA discussion'	NatureScot and MD-LOT agreed to refinements to the whole project, Morven Programme and cumulative effects assessment approach set out within MvOWL's targeted consultation letter dated 13 March 2025. To allow each of the Morven North and Morven South consent applications to be considered independently, NatureScot advised that cumulative assessment should consider the potential effects of Morven North together with other projects, plans and activities (including other components of the Morven Programme alongside other tiered projects), rather than the consideration of Morven Programme impacts together with other projects, plans and activities. It was also agreed that the Morven Programme assessment would only be required for offshore ornithology and shipping and navigation receptors.	No	The whole project, Morven Programme and in-combination assessment approach is set out in Sections 4.6 and 5.5.
19 August 2025	NatureScot	Letter	NatureScot queried the use of a distance measured from the centre of the project to the centre of the SPA as incorporated into the apportioning exercise	No	Please see entry for consultation undertaken on 23 October 2025.

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			undertaken for the project. NatureScot requested that apportioning values be calculated for all SPAs by increasing the foraging distance used for each species so that all SPAs are included when using a centre to centre measurement.		
19 September 2025	NatureScot	Letter	The Applicant provided a response to NatureScot's email on 19 August 2025 and outlined the Applicant's approach to apportioning for guillemot in all seasons. It is the Applicant's position that guillemot present at Morven South during the breeding season are not associated with breeding colonies and are instead non-breeding and immature birds.	No	Please see entry for consultation undertaken on 23 October 2025
29 September 2025	NatureScot	Letter	NatureScot provided a response to the Applicant's letter sent on 19 September 2025 outlining why they considered that guillemot present at Morven South in the breeding season were associated with breeding colonies.	No	Please see entry for consultation undertaken on 23 October 2025
1 October 2025	NatureScot, MD-LOT	Email correspondence	The Applicant issued a letter to NatureScot and MD LOT outlining significant discrepancies identified within the NEEOG cumulative ornithology database. This database, developed to provide a consistent set of cumulative collision and displacement totals for offshore wind assessments, was found to contain outdated, incorrect, or inconsistent population and impact	No	Please see entry for consultation undertaken on 23 October 2025.

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			values for several offshore wind projects. The Applicant requested NatureScot's advice on the implications of these issues and sought confirmation that their proposed approach, to use updated, project specific assessment data rather than the uncorrected NEEOG database values, was acceptable for the cumulative assessments for Morven North and Morven South.		
2 October 2025	NatureScot	Email correspondence	The Applicant requested NatureScot's advice in relation to the conversion factor to apply to convert population counts of razorbill from individuals into breeding pairs/individuals. Burnell *et al.* (2023) applied an updated correction factor based on information from the Isle of May and the Applicant asked NatureScot to confirm whether this correction factor should now be applied. NatureScot confirmed that the correction factor from Burnell *et al.* (2023) should be used to correct population counts of razorbill.	No	Population counts of razorbill have been calculated applying the correction factor from Burnell *et al.* (2023).
16 October 2025	NatureScot	Letter	The Applicant provided a further response to NatureScot's letter of 29 September 2025 detailing additional information to support the Applicant's position that guillemot present at Morven South during the breeding season are not associated with breeding colonies and	No	Please see entry for consultation undertaken on 23 October 2025

Date	Consultee	Type of consultation	Summary of consultation	Change required to screening outcomes?	Where addressed in this document
			are instead non-breeding and immature birds.		
23 October 2025	NatureScot	Meeting	The Applicant presented the information sent to NatureScot on 16 October 2025 to inform a discussion on the approach to apportioning for guillemot in all seasons	Yes	The Applicant agreed to undertake additional apportioning incorporating an increased foraging range to provide apportioning values for specific SPAs for which LSE[2] were identified in the screening exercise. For Morven South this was relevant to guillemot at the Fowlsheugh SPA only. It was agreed that changes to the approach to distance measurement as part of the apportioning approach applied for Morven South were not required for any other species. Apportioning values calculated for guillemot have been used to inform NatureScot's approach as presented in the RIAA Part 3. The Applicant maintains that guillemot present at Morven South in the breeding season are not associated with any breeding colony. In addition, it was agreed to use tracking data from Buckingham *et al.* (2023) to identify those SPAs with connecitivty with Morven South in the post- and non-breeding seasons.
5 February 2026	NatureScot	Email correspondence	NatureScot response in relation to Applicant's email correspondence of 1 October 2025. NatureScot confirmed they were happy for the Applicant to proceed as proposed, utilising the Applicant's cumulaitve databases instead of the NEEOG interim CEF database	No	The Applicant has used site-specific data throughout the in-combination assessments presented in Section 5.5.

3 Summary of Habitats Regulations Appraisal screening conclusions

3.1.1.1 This section summarises all pathways for potential LSE[2] ornithological features identified for SPAs and Ramsar sites (arising alone or in-combination with other plans and projects). Please note that pathways for potential LSE[2] were not identified for any features of Ramsar sites.

3.2 Screening outcomes for Morven South alone

3.2.1.1 A total of 21 SPAs designated for ornithological features were advanced to the RIAA. These are as follows:

- Buchan Ness to Collieston Coast SPA;
- Copinsay SPA;
- Coquet Island SPA;
- East Caithness Cliffs SPA;
- Fair Isle SPA;
- Farne Islands SPA;
- Fetlar SPA;
- Flamborough and Filey Coast SPA;
- Forth Islands SPA;
- Foula SPA;
- Fowlsheugh SPA;
- Hermaness, Saxa Vord and Valla Field SPA;
- Hoy SPA;
- North Caithness Cliffs SPA;
- Northumberland Marine SPA;
- Noss SPA;
- Outer Firth of Forth and St Andrews Bay Complex SPA;
- St Abb`s Head to Fast Castle SPA;
- St Kilda SPA;
- Troup, Pennan and Lion's Heads SPA;
- West Westray SPA.

3.2.1.2 A summary of the 21 SPAs and associated ornithological features for which the potential for LSE[2] could not be ruled out and therefore were carried forward to the RIAA is presented in Table 3.1. The location of these SPAs is provided in Figure 3.1.

3.3 Screening outcomes for Morven South in-combination with other plans and projects

3.3.1.1 All offshore ornithology sites which could not be excluded from the alone assessment are also included within the in-combination assessment following LSE[2] screening. Further information on in-combination assessment methodology is presented within Section 1.1.

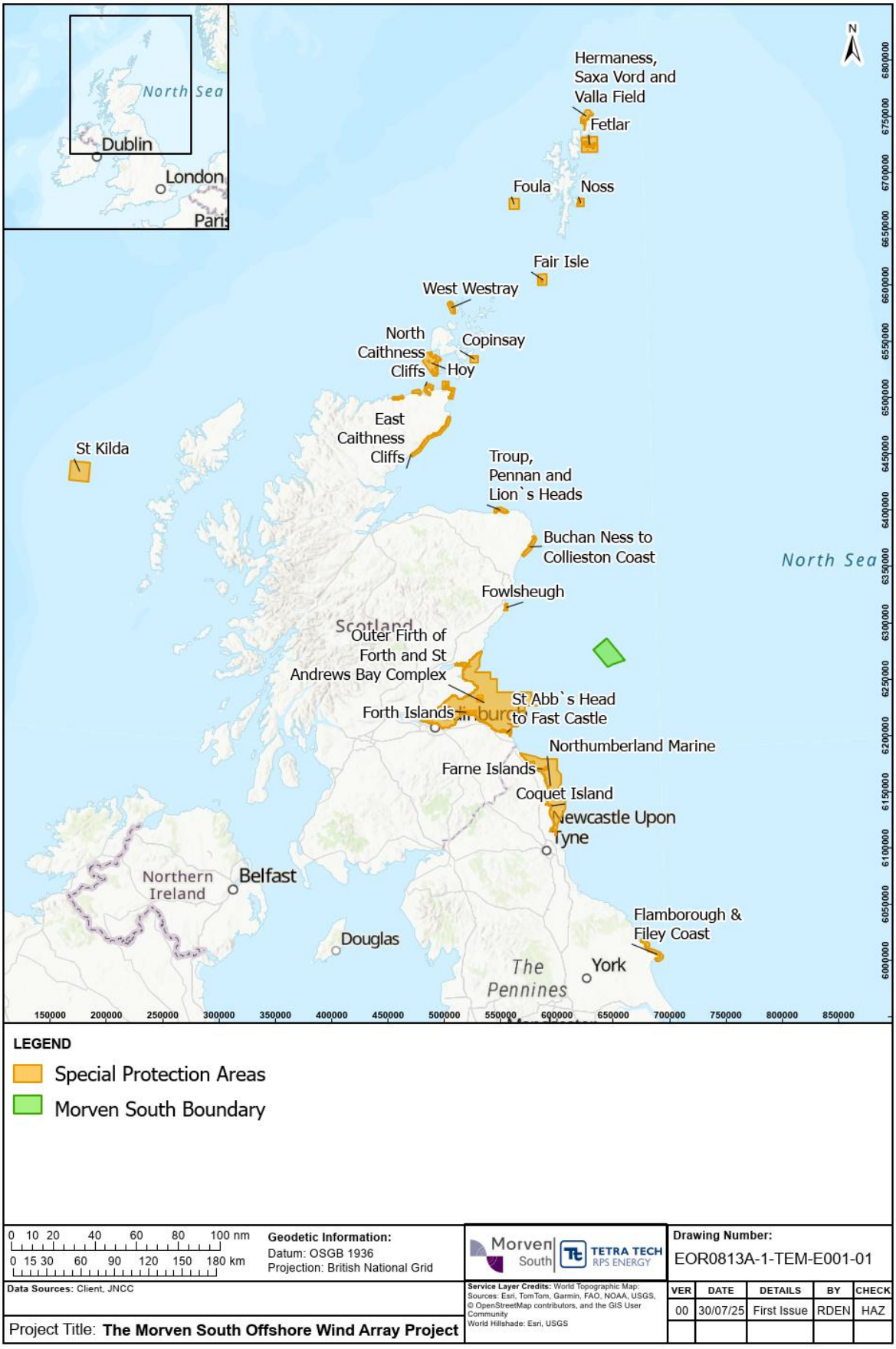


Figure 3.1: Location of Special Protection Areas for which Likely Significant Effects were identified in relation to impacts associated with Morven South

Table 3.1: Summary of all Special Protection Areas for which the potential for Likely Significant Effect could not be discounted, and for which an Appropriate Assessment is required

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
UK9020316	Outer Firth of Forth and St Andrews Bay Complex SPA	66	Kittiwake (*Rissa tridactyla*)	Construction	Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance.
			Herring gull (*Larus argentatus*) (non-breeding seasons only)	Operation and maintenance	Collision
			Gannet (*Morus bassanus*)	Operation and maintenance	Collision; Displacement; Barrier effects
			Guillemot (*Uria aalge*)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Puffin (*Fratercula arctica*)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Razorbill (*Alca torda*)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement Collision; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Red-throated diver (*Gavia stellata*)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Slavonian grebe (*Podiceps auritus*)	Construction	Direct temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Eider (*Somateria mollissima*)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Shag (*Gulosus aristotelis*)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Long-tailed duck (*Clangula hyemalis*)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Common scoter (*Melanitta nigra*)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Decommissioning	Direct temporary habitat loss/disturbance.
			Velvet scoter (*Melanitta fusca*)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Goldeneye (*Bucephala clangula*)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Red-breasted merganser (*Mergus serrator*)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Non-breeding waterfowl assemblage	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
UK9002271	Fowlsheugh SPA	84	Herring gull	Operation and maintenance	Collision
			Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Collision; Displacement; Barrier effects.
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
			Guillemot	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Razorbill	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
UK9020325	Northumberland Marine SPA	93	Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light.
				Decommissioning	Attraction to light
			Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance.
			Puffin	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance.
			Razorbill	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance.
UK9002281	Buchan Ness to Collieston Coast SPA	103	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance.
			Guillemot (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
UK9006021	Farne Islands SPA	103	Kittiwake	Construction	Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance.
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Puffin	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
UK9004173	St Abb`s Head to Fast Castle SPA	103	Kittiwake	Operation and maintenance	Collision; Displacement; Barrier effects.
			Guillemot (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Razorbill	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects.
				Decommissioning	Direct temporary habitat loss/disturbance.
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Decommissioning	Direct temporary habitat loss/disturbance.
UK9004171	Forth Islands SPA	106	Gannet	Operation and maintenance	Collision; Displacement; Barrier effects.
			Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance.
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
			Guillemot (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
			Razorbill	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance.
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance
			Puffin	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
UK9006031	Coquet Island SPA	132	Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
			Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
			Puffin	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance Attraction to light;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
UK9002471	Troup, Pennan and Lion's Heads SPA	143	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
			Guillemot (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
			Breeding seabird assemblage	Operation and maintenance	Collision; Displacement; Barrier effects
UK9001182	East Caithness Cliffs SPA	234	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
			Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
			Razorbill (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects Attraction to light; Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
UK9006101	Flamborough and Filey Coast SPA	243	Gannet (non-breeding seasons only)	Operation and maintenance	Collision; Displacement; Barrier effects
			Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
			Puffin	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
			Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
			Razorbill (non-breeding seasons)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects; Attraction to light;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
UK9001181	North Caithness Cliffs SPA	253	Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
			Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance
			Puffin	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
UK9002291	Copinsay SPA	271	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
UK9002292	Hoy SPA	278	Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
			Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
UK9002441	Fair Isle SPA	318	Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Attraction to light
				Decommissioning	Attraction to light
			Gannet (non-breeding seasons only)	Operation and maintenance	Collision; Displacement; Barrier effects
			Puffin (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance Attraction to light;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
UK9002101	West Westray SPA	318	Kittiwake (non-breeding seasons only)	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects;

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Collision; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance
UK9002081	Noss SPA	385	Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
			Gannet (non-breeding seasons only)	Operation and maintenance	Collision; Displacement; Barrier effects
			Breeding seabird assemblage	Construction	Attraction to light
				Operation and maintenance	Collision; Displacement; Barrier effects Attraction to light
				Decommissioning	Attraction to light
UK9002061	Foula SPA	389	Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
			Puffin (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance Attraction to light; Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance
UK9002051	Hermaness, Saxa Vord and Valla Field SPA	425	Fulmar	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
			Gannet	Operation and maintenance	Collision; Displacement; Barrier effects
			Puffin (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Displacement; Barrier effects; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Changes in prey availability due to

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
					temporary habitat loss/disturbance
			Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Operation and maintenance	Direct temporary habitat loss/disturbance; Collision; Displacement; Barrier effects; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
				Decommissioning	Direct temporary habitat loss/disturbance; Attraction to light; Changes in prey availability due to temporary habitat loss/disturbance
UK9002071	Fetlar SPA	432	Fulmar	Construction	Attraction to light

Site ID	Site name	Distance to Morven South (km)	Relevant qualifying features	Project phase	Potential impact
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
			Breeding seabird assemblage	Construction	Attraction to light
				Operation and maintenance	Displacement; Attraction to light
				Decommissioning	Attraction to light
UK9004172	St Kilda SPA	473	Gannet (non-breeding seasons only)	Operation and maintenance	Collision; Displacement; Barrier effects
			Breeding seabird assemblage	Operation and maintenance	Collision; Displacement; Barrier effects

4 Information to inform the Appropriate Assessment

4.1 Introduction

4.1.1.1 As described in RIAA Part 1, a European site is progressed to the Appropriate Assessment stage (Stage Two of the HRA process) where it is not possible to rule out the potential for LSE[2] on one or more of its qualifying interest features in view of the site's conservation objectives. European sites, features and potential impacts requiring an Appropriate Assessment for Morven South are therefore those for which LSE[2] could not be ruled out during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1and following consultation.

4.1.1.2 Information to help inform the Appropriate Assessment for SPAs (and Ramsar sites) is provided in the following sections of this Part of the RIAA. The information provided includes a description of the SPAs (and Ramsar sites) under consideration, their qualifying interest features, and an assessment of potential effects on site integrity in light of the conservation objectives of each site. A cross-referencing approach has been adopted to aid readability and reduce repetition where relevant, but that this has been carefully carried out to ensure that all information required for a robust HRA of each site is presented.

4.2 Maximum Design Scenarios

4.2.1.1 The assessments for all SPAs (and Ramsar sites) considered in this Part of the RIAA have been based on a realistic MDS, which was derived from the Project Design Envelope (PDE). An overview of the MDS considered for the assessment of potential impacts on ornithological features considered in this Part of the RIAA for each impact assessed is provided in each respective section (see Section 5). This MDS is consistent with that used for the assessment in Volume 2, Chapter 11: Offshore Ornithology, of the EIA Report.

4.3 Designed-in measures

4.3.1.1 As part of the Morven South design process, a number of designed-in measures have been included in Morven South and are committed to be delivered by the Applicant as part of Morven South. These designed-in measures are integrated into the project description for Morven South and are not considered as mitigation measures intended to specifically avoid or reduce effects on European sites.

4.3.1.2 Measures intended specifically to avoid or reduce effects on European sites were not considered during the HRA Stage One Screening but are included within the HRA Stage Two Appropriate Assessment for determination of Adverse Effects on Integrity. Where relevant, this Part of the RIAA indicates whether adverse effects on European sites are likely and if so, whether those effects can be avoided through the introduction of mitigation measures that avoid or reduce the effect. These measures are referred to as further mitigation measures and may be taken from Volume 2, Chapter 11: Offshore Ornithology, of the EIA Report or, where necessary, may have been developed specifically to comply with HRA requirements. Where the latter is the case, this has been made clear throughout. All measures are detailed in the EIA Commitments Register (Volume 3 Annex 6.4: EIA Commitments Register, of the EIA Report).

4.4 Baseline information

4.4.1.1 Baseline information on the SPAs identified for further assessment within the HRA Stage Two Information to Support Appropriate Assessment has been collated through a comprehensive review of existing desktop studies and datasets. Key desktop data sources are presented in Section 5.2 for ornithological features. Where applicable, any additional data sources used in the HRA Stage Two Information to Support Appropriate Assessment are also included in this

section. Further baseline information is presented within Volume 2, Chapter 11: Offshore Ornithology, of the EIA Report and accompanying technical reports.

4.4.1.2 For offshore ornithology SPA and Ramsar sites, the main source of baseline information comes from the 24 month site specific aerial survey data and baseline characterisation for ornithology. In addition to the baseline surveys, information was presented from multiple reports which investigated the ornithological assemblage of the regional study area as defined in Volume 3, Chapter 11.1: Offshore Ornithology Baseline Characterisation Report, of the EIA Report.

4.4.1.3 The detailed methods, results and analysis of the aerial surveys and additional data required to inform the assessment presented in the RIAA are presented within documentation associated with the EIA Report and RIAA:

- Volume 3, Chapter 11.1: Offshore Ornithology Baseline Characterisation Report of the EIA Report;
- Volume 3, Chapter 11.2: Offshore Ornithology Collision Risk Modelling Report of the EIA Report;
- Volume 3, Chapter 11.3: Offshore Ornithology Collision Risk Modelling Report: Migratory of the EIA Report;
- Volume 3, Chapter 11.4: Offshore Ornithology Displacement Modelling Report (Matrix Approach) of the EIA Report;
- Volume 3, Chapter 11.5: Offshore Ornithology Displacement Modelling Report (SeabORD) of the EIA Report;
- Volume 2, Annex 3.1: RIAA: Apportioning;
- Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

4.5 Conservation objectives and conservation advice

4.5.1.1 UK Statutory Nature Conservation Bodies (SNCB)s have produced conservation advice for European sites under their statutory remit. This conservation advice provides supplementary information on sites and features, and although the content provided is similar, the format of the advice provided varies between the different SNCBs.

4.5.1.2 Conservation objectives set the framework for establishing appropriate conservation measures for each feature of the site and provide a benchmark against which plans or projects can be assessed. The conservation objectives set out the essential elements needed to ensure that a qualifying habitat or species is maintained or restored at a site. If all the conservation objectives are met, then the integrity of the site will be maintained, and deterioration or significant disturbance of the qualifying features avoided.

4.5.1.3 In this HRA RIAA Report, the Applicant has referenced the most up-to-date conservation objectives and conservation advice available. It is recognised that in the conservation advice documents, if any feature of the SPA is in unfavourable condition, the integrity of the site is deemed to be compromised and the overarching objective is therefore to restore site integrity.

4.5.1.4 Due to the location and scale of Morven South, European sites with the potential to be impacted fall variously under the remit of NatureScot, Natural England and the Joint Nature Conservation Committee (JNCC).

4.5.1.5 For Scottish SPAs, NatureScot has published conservation and management advice documents for each site. These documents provide detailed conservation objectives which are used as part of the assessments in this RIAA Part 3.

4.5.1.6 SPAs that stretch into offshore waters beyond the territorial sea limit fall under the remit of JNCC. For these SPAs, JNCC has published conservation and management advice. This information has been used as part of the assessments in this RIAA Part 3.

4.5.1.7 For some SPAs, Natural England has published a 'European Site Conservation Objectives: Supplementary advice on conserving and restoring features' document. The document presents attributes which are ecological characteristics of the designated species and habitats within a site. Each attribute has a target which is either quantitative or qualitative depending on the available evidence. Targets are also listed for the desired state to be achieved for the attribute.

4.6 Approach to the in-combination assessment

4.6.1 Overview

4.6.1.1 The approach taken for the assessment of in-combination impacts has been partly informed by the Cumulative Effects Assessment (CEA) (see Volume 1, Chapter 6: EIA Methodology, for further detail) carried out for relevant topics in the EIA Report (Volume 2, Chapter 9: Fish and Shellfish Ecology and Volume 2, Chapter 11: Offshore Ornithology, of the EIA Report). The methodology for the in-combination assessment is compliant with HRA guidance and is summarised in the following paragraphs.

4.6.1.2 The following assessment scenarios have been considered to identify the potential impacts of Morven South in combination with other projects on the same receptor, as follows (and summarised in Table 4.1):

- Whole project assessment: to identify the potential impacts associated with Morven South together with each grid connection option in turn, (Scenario 1: Morven Hawthorn Pit Grid Connection Project (MHPGC Project and Scenario 2: Morven Branxton Area Grid Connection Project (MBAGC Project), each of which would comprise a "Whole Project";
- Morven Programme assessment: to identify potential impacts associated with all four components of the Morven Programme ((Scenario 3);
- In-combination assessment: to identify the potential impacts associated with Morven South together with other relevant third-party projects, plans and activities including other components of the Morven Programme, using a tiered approach (Scenario 4).

Table 4.1: Scenarios to be considered in the Morven South whole project assessment, Morven Programme assessment and in-combination assessment

Whole project assessment		Morven Programme assessment	In-combination assessment
Scenario 1	**Scenario 2**	**Scenario 3**	**Scenario 4**
Morven South + MHPGC Project	Morven South + MBAGC Project	Morven South + Morven South + MHPGC Project + MBAGC Project	Morven South + Tier 1, Tier 2 and Tier 3 Plans/Projects screened in

4.6.2 Identification of projects considered in-combination

4.6.2.1 The screening undertaken for the CEA in the EIA Report has been used to inform the list of projects and plans relevant to the in-combination assessment. Each project or plan has been considered on a case-by-case basis for screening in or out of this in-combination assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved. See Volume 3, Annex 6.2: Cumulative Effects Screening, of the EIA Report for further details on the screening process.

4.6.2.2 In undertaking the in-combination assessment for Morven South, it should be noted that other projects and plans under consideration will have differing potential for proceeding to an operational stage and hence a differing potential to ultimately contribute to an in-combination

impact alongside Morven South. Therefore, a tiered approach has been adopted whereby the in-combination assessment will be provided in tiers of projects. This provides a framework for placing relative weight upon the potential for each project/plan to be included to ultimately be realised, based upon the project/plan's current stage of maturity and certainty in the projects' parameters. This includes the allocation of the other three components of the Morven Programme into Tiers for assessment in the in-combination assessment.

4.6.2.3 The tiered approach utilised within the Morven South in-combination assessment employs the following tiers:

- Tier 1 assessment – Existing developments either built (operational) or under construction[2]; approved developments awaiting implementation; and permitted/submitted application(s), but not yet determined.
- Tier 2 assessment – All plans/projects assessed under Tier 1, and plans/projects where a scoping report has been submitted and is in the public domain.
- Tier 3 assessment – All plans/projects assessed under Tier 1 and 2, plus plans/projects that are reasonably foreseeable (e.g. projects identified in development plans, projects in other plans and programmes, offshore renewable energy projects that have a Crown Estate Scotland Lease Option Agreement).

4.6.2.4 The specific projects scoped into the in-combination assessment for offshore ornithological features are presented in Section 5.5. Projects are considered quantitatively within the assessments presented in Section 5.5, where quantitative information for a project was available at least six months before the application submission date for Morven South. Whilst an additional screening exercise was undertaken three months before the submission date of Morven South to ensure all projects that could contribute to an in-combination effect with Morven South were captured within Volume 3, Annex 6.2: Cumulative Effects Screening it is not possible to incorporate any further projects into the assessments presented in Volume 3, Annex 6.2: Cumulative Effects Screening Section 5.5 in a quantitative manner. This however, only affects one project, the Ayre offshore wind farm, for which quantitative information in a format required for inclusion in the in-combination assessments presented in Section 5.5 was not available prior to the six month cut-off mentioned above for quantitative consideration.

4.6.2.5 As part of the in-combination assessment all projects for which collision risk estimates or population estimates are available are considered. This approach is consistent with the approach taken for previous offshore wind farm projects in UK waters. In some cases, SPAs for which the potential for LSE[2] could not be ruled out in relation to potential impacts associated with Morven South may not have been given detailed consideration in the assessments produced previously for other projects considered in-combination. This often means that apportioning values in the breeding season for some SPAs are not provided in project-specific documentation for older projects. Where this occurs, available breeding season apportioning values from the nearest project for which a value is available have been applied. Where this approach has been followed, it has been identified above relevant tables in Section 5.5.

4.6.2.6 In the non-breeding seasons, although apportioning values may not have been calculated for SPAs in project-specific documentation for projects considered in-combination, apportioning

[2] Note that existing developments are included in Tier 1 CEA long list but are generally screened out of the CEA assessments, aside from the following exceptions:

a) Existing developments which were not present at the time of baseline characterisation, where a potential cumulative impact-receptor pathway has been identified.

b) Existing developments are screened into Tier 1 assessments for specific topics where there is a large conceptual, temporal and spatial overlap between project impacts. In these instances, the potential for ongoing effects through cumulative impact-receptor pathways throughout project lifetime, across the development phases, means that they are considered within quantitative assessment for these topic CEAs (e.g., offshore ornithology assessments consider the cumulative effects of operational offshore wind farms).

values for these seasons are readily calculated from Furness (2015) and, generally the same as those used for Morven South. Where apportioning values are required outside of the breeding season for guillemot and herring gull, for which a different approach to calculating non-breeding season apportioning values is applied these values are taken from project-specific documentation.

4.6.2.7 Collision risk estimates for projects considered in-combination have been updated using the avoidance rate recommended by NatureScot (NatureScot, 2025b) for the relevant species to provide a precautionary approach that ensures sites are not omitted from the assessment prematurely. Assumptions in relation to in-combination displacement impacts are provided for each relevant SPA in Section 5.5.

4.6.3 Threshold for in-combination assessment

4.6.3.1 NatureScot have advised (pre-application consultation January 2025) that in-combination assessments are only required when the impact associated with Morven South alone represents a mortality of more than 0.2 birds/annum. This threshold has been applied throughout to all quantitative assessments presented in this RIAA Part 3 and it is therefore considered that where the impact associated with Morven South is less than 0.2 birds/annum, that Morven South will not materially contribute to any existing in-combination impact.

5 Assessment of potential adverse effects on integrity

5.1 Introduction

5.1.1.1 This section provides background information and explanation for the approach taken to assess the potential impacts of Morven South on SPAs and Ramsar sites designated for offshore ornithological features.

5.1.1.2 As stated in Section 3.2, the potential for LSE[2] could not be ruled out for offshore ornithological features of 21 SPAs, which are listed in Table 3.1 and Figure 3.1.

5.1.1.3 The potential for LSE[2] on the SPAs presented in Table 3.1 could not be ruled out for all project phases of Morven South, which are outlined below in Table 5.1. A range of designed-in measures have been committed to as part of Morven South, and these are presented, where relevant, in Section 5.3.3 per impact, as well as in the EIA Commitments Register (Volume 3 Annex 6.4: EIA Commitments Register of, the EIA Report).

Table 5.1: Potential impacts to offshore ornithological features of the European sites identified for Appropriate Assessment

Project phase	Potential impact
Construction	Direct temporary habitat loss/disturbance Changes in prey availability due to temporary habitat loss/disturbance Attraction to light
Operation and maintenance	Direct temporary habitat loss/disturbance Changes in prey availability due to temporary habitat loss/disturbance Displacement Collision Barrier effects Attraction to light
Decommissioning	Direct temporary habitat loss/disturbance Changes in prey availability due to temporary habitat loss/disturbance Attraction to light

5.2 Potential impacts and method of assessment

5.2.1 Introduction

5.2.1.1 As described in Sections 2 and 4, the assessments within this RIAA have been carried out with regards to NatureScot's Guidance Notes (NatureScot, 2023a-i) along with advice received through the consultation process (Table 2.1). However, the Habitats Regulations requires HRA to be based on the best available scientific information and, in some instances, the Applicant considers the advice and guidance provided to be overly precautionary based on a review of the available scientific literature. Therefore, for some assessments, this RIAA presents a separate NatureScot approach and Applicant's approach. The NatureScot approach follows NatureScot's guidance and advice received from NatureScot through the consultation process. The Applicant's approach follows the Applicant's interpretation of the

best available scientific information (as detailed in the assessment methodology below), whilst still being sufficiently precautionary to account for the uncertainty in the scientific information available.

5.2.2 Assessment methodology

Seasonal definitions

5.2.2.1 Seasonal definitions used as the basis for assessment are provided in Table 5.2. Seasons have been defined based on NatureScot advice (breeding season) (NatureScot, 2020) with non-breeding seasons split, where necessary, based on the seasonal extents defined in Furness (2015) with priority given to the breeding season where overlaps exist. Where the seasonal extents presented in NatureScot (2020) begin or end within a month, the middle of the month was used as the cut off for inclusion in either the breeding or relevant non-breeding season. Months were assigned to a season based on the day that the site-specific survey from which abundance estimates were calculated was flown. Timings of each survey can be found in Volume 3, Annex 11.1: Offshore Ornithology Baseline Characterisation Report of the EIA Report.

5.2.2.2 In the case of guillemot and razorbill, further advice has been sought from NatureScot regarding seasonality, and the inclusion of alternative seasons for use in displacement analyses for these species (see Volume 1, Chapter 5: Consultation of the EIA Report. This advice, and full descriptions and justifications of changes to the seasonal extents used for these two species can be found in Appendix B of Volume 3, Annex 11.4: Offshore Ornithology Displacement Modelling Report (Matrix Approach), of the EIA Report. It was agreed that peak abundances of both guillemot and razorbill in the Morven South Boundary occurring late in the breeding season likely represents post-breeding dispersal of birds from breeding colonies. This aligns with the phenology provided in Furness (2015), which describes modal dispersal from breeding colonies as taking place in July and colonies being deserted by August. It also aligns with fledging data from the Isle of May from 2021 to 2023, where chicks fledge between late June and early August (see Volume 3, Annex 11.1: Offshore Ornithology Baseline Characterisation Report of the EIA Report). As a result the data used for displacement analysis for guillemot and razorbill utilises different seasonal extents in the two years of baseline data. This is identified in Table 5.2. For all other species the seasonal extents used are the same in both survey years.

5.2.2.3 In the case of guillemot, NatureScot advised during a consultation meeting undertaken on 28 May 2025 that July and August should be included in a post-breeding season, where the abundance estimates were higher than those recorded in surrounding months. In the case of Morven South, a post-breeding season comprising July and August 2022 and July 2023 has been defined. Full justification for the inclusion of these months in the post-breeding season is provided in Appendix B of Volume 3, Annex 11.4: Offshore Ornithology Displacement Modelling Report (Matrix Approach), of the EIA Report.

5.2.2.4 In the case of razorbill, NatureScot has advised that the post-breeding season should be extended to include the months in which peak abundance was recorded during the digital aerial surveys; in this case, this means including July and August in the post-breeding season rather than the breeding season.

Table 5.2: Seasonal definitions as the basis for assessment, from NatureScot (2020) and Furness (2015) and after additional advice from NatureScot taking into account the date each baseline survey was flown

Species	Pre-breeding season/spring migration	Breeding season	Post breeding season/autumn migration	Non-breeding/winter season
Kittiwake	January to April	May to August	September to December	n/a
Gannet	December to March	April to September	October to November	n/a
Guillemot	n/a	April to June 2022 and 2023	July and August 2022 and July 2023	August 2021 to March 2022 and September 2022 to March 2023
Razorbill	January to March 2022 and 2023	April to June 2022 and April to July 2023	July to October 2021 and 2022	November to December 2021 and 2022
Puffin	n/a	April to August	n/a	September to March
Fulmar	December to March	April to September	October	November

Apportioning and population modelling

5.2.2.5 For HRA purposes, it is then necessary to 'apportion' the impact to SPA populations. For Morven South, the apportioning values applied are presented in Volume 2, Annex 3.1: RIAA: Apportioning. During the breeding season, a theoretical approach (developed by NatureScot (NatureScot, 2018)) has been applied to determine the proportion of birds from SPAs which use Morven South in the breeding season. In relevant tables in section 5.3.3, apportioning values presented for the breeding season represent a combination of the colony proportion (as calculated in Volume 2, Annex 3.1: RIAA: Apportioning, the adult:immature ratio and the sabbatical proportion).

5.2.2.6 In the non-breeding period, the standard approach to apportioning that utilises the population data presented in Furness (2015), is applied for all species with the exception of guillemot and herring gull.

5.2.2.7 For herring gull the applied approach is similar to the Furness (2015) approach described above, but instead of using the BDMPS areas defined in Furness (2015), the area of the BDMPS is defined as the mean-maximum foraging range of the species plus one SD (Woodward et al., 2019). The breeding adult population within this area plus the associated immature population (calculated using the stable age proportions from Furness (2015)) are then totalled to provide the BDMPS population. The population of the relevant SPA is then divided by the BDMPS population to provide the apportioning value.

5.2.2.8 For guillemot, a different approach has been agreed between the Applicant and NatureScot during pre-application consultation undertaken in October 2025. Due to the increased populations recorded at Morven South in surveys undertaken in July and August it is considered that guillemots from a wider range of colonies than would usually be identified following the approach normally recommended by NatureScot (the application of the mean-maximum foraging range plus one SD) may be contributing to the population present at Morven South. The approach for guillemot therefore utilises tracking data collected by Buckingham *et al.* (2023) to identify the colonies that may contribute birds to the population present at Morven South. These data suggest that guillemot from colonies between the

Troup, Pennan and Lion's Heads SPA and the St Abb's Head to Fast Castle SPA may occur at Morven South during the post-breeding and non-breeding seasons. The total population of guillemot at colonies in this area has been calculated to provide the total breeding population. This population has been multiplied by the immature ratio presented in Furness (2015) to calculate the number of immatures associated with this population. These two populations have then been combined to provide the total population from which birds at Morven South may originate. The population of each SPA has then been divided by the total population to calculate apportioning values which are then applied to post-breeding and non-breeding season impacts.

5.2.2.9 Following apportioning, the predicted impact upon each qualifying feature is considered in relation to the potential for adverse effect. Where the impact represents more than a 0.02 percentage point increase in the baseline mortality of the SPA population, additional assessment steps, including population modelling, may be required. Population modelling has followed NatureScot guidance (NatureScot, 2023h) and uses the Natural England Population Viability Analysis tool (Searle *et al.,* 2019) with the methodology and results for all applicable SPAs and associated qualifying features presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis. The proposed lifetime for Morven South is 35 years and this is therefore used as the basis for the assessments presented in this RIAA Part 3. The results presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis provide PVA outputs for all years assuming impacts will operate for 50 years following NatureScot guidance.

5.2.2.10 Where the increase in baseline mortality is below the threshold of 0.02 percentage points, then it can be concluded that there is no possibility for the additional mortality caused by the impact in question to have any discernible impact on the relevant SPA population. Seabird survival and productivity is influenced by environmental stochasticity, leading to natural variation in survival and productivity rates. This natural variation far exceeds a 0.02 percentage point increase in mortality (Horswill and Robinson, 2015) and therefore it can be concluded that the additional mortality would not have an impact on the population size that is detectable within the operational lifespan of Morven South and therefore additional assessment steps, including population modelling, are not required.

In-combination

5.2.2.11 As discussed in Section 4.6.3, NatureScot have advised (pre-application consultation January 2025) that in-combination assessments are only required when the impact associated with Morven South alone represents more than 0.2 birds/annum. This threshold has been applied throughout to all quantitative assessments presented in this RIAA Part 3 and it is therefore considered that where the impact associated with Morven South is less than 0.2 birds/annum, that Morven South will not materially contribute to any existing in-combination impact.

5.2.3 Direct temporary habitat loss/disturbance

5.2.3.1 There is potential for temporary, direct benthic habitat loss as a result of activities during the construction, operations and maintenance, and decommissioning phases of Morven South (e.g. seabed preparation, Unexploded Ordnance (UXO) detonation, drilling, inter-array and interconnector cables installation and removal, vessel movements). These activities have the potential to affect the foraging efficiency of diving birds.

5.2.3.2 In addition to this direct habitat loss, temporary disturbance as the result of activities during the construction, operations and maintenance, and decommissioning phases of an offshore wind farm has the potential to displace seabirds from an area of sea in which the activity is occurring.

5.2.3.3 In relation to offshore wind farm development, disturbance is defined as an interruption to a bird's normal pattern of activity caused by anthropogenic activity (JNCC *et al.,* 2022). This may lead to a reduction in the number of seabirds occurring within or immediately adjacent to the disturbance event. Disturbance can be considered as a temporary indirect habitat loss, as it results in birds unable to utilise the habitat in the area from which they have been

disturbed for a given period of time. Upon cessation of the disturbance event birds may then return to the area from which they were disturbed. The project design includes a Navigation Safety and Vessel Management Plan Plan (NSPVMP) (Volume 4, Annex 5: Outline Navigation Safety Plan and Vessel Management Plan (NSPVMP) of the EIA Report), which will reduce disturbance of seabird species by avoiding bird populations and/or migratory routes.

5.2.3.4 The loss of habitat means that displaced birds may move to areas already occupied by other birds and thus may face higher intra- or inter-specific competition due to a higher density of individuals competing for the same resources. Alternatively, displaced birds may be forced to move into areas of lower quality (e.g. areas of lower prey availability) or travel longer distances to reach habitat of a suitable quality. This could therefore affect their demographic fitness (i.e. survival rates and breeding productivity), as well as potentially impacting on other birds in areas that displaced birds move to (for example, by increasing competition for resources).

5.2.3.5 The impact of direct habitat loss/disturbance has been assessed qualitatively. Project activities that may result in disturbance are expected to be intermittent and spatially limited at any given time, and therefore a qualitative assessment is considered to be proportional to the magnitude of the anticipated impacts.

5.2.4 Changes in prey availability due to temporary habitat loss/disturbance.

5.2.4.1 There is potential for changes to availability, via temporary direct benthic habitat loss and disturbance to sediments as a result of activities during all phases (e.g. seabed preparation, UXO detonation, drilling, inter-array and interconnector cable installation and repair/reburial and removal of infrastructure). This has potential to indirectly affect birds by directly affecting prey species, such as fish, shellfish and bivalves.

5.2.4.2 Seabirds may be indirectly disturbed and displaced during the construction, operations and maintenance, and decommissioning phases as a result of direct impacts on habitat and increased SSCs (for example, due to turbine installation), which may result in the loss of a food resource to birds within the Morven South Boundary. The increase in SSCs may also reduce the ability of birds to capture prey in the water column.

5.2.4.3 As a result, displaced seabirds may move to areas already occupied by other birds but, in doing so, may face higher intra/inter-specific competition due to a higher density of individuals competing for the same resource. Alternatively, displaced birds may be forced to move into areas of lower quality (e.g. areas of lower prey availability). Such disturbance and resulting displacement could ultimately affect their demographic fitness (i.e. survival rates and breeding productivity) as well as potentially impacting on other birds in areas that displaced birds move to.

5.2.4.4 The potential impacts on fish, shellfish and bivalve prey are provided in Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report and include temporary subtidal habitat loss/disturbance and increased SSCs and associated sediment deposition.

5.2.5 Displacement

5.2.5.1 This impact relates to the physical displacement that could occur if birds avoid the area occupied by Morven South during the operation and maintenance phase.

5.2.5.2 It should be noted that for breeding seabirds, it can be difficult to distinguish between displacement and barrier effects for breeding seabirds (JNCC *et al.,* 2022). JNCC *et al.* (2022) defines barrier effects as “a physical factor that limits the migration, or free movement of individuals or populations, thus requiring them to divert from their intended path in order to reach their original destination”. For any individual seabird, whether Morven South creates a displacement effect, a barrier effect, both, or neither would depend on where that individual

would have foraged in the absence of Morven South, where it chooses to forage instead, and the route it takes to get there.

5.2.5.3 The current guidance from NatureScot (2023f) therefore recommends treating both displacement and barrier effects together as "distributional responses" and, for breeding seabirds, recommends assessing these distributional responses together. Therefore, for breeding seabirds, the approach to the displacement assessment covers both displacement and barrier effects, whilst the assessment of "barrier to movement" (Section 5.2.7) only considers the barrier effect to migratory birds.

5.2.5.4 Displacement has been screened in for a number of sites and species during operation and maintenance phase, as a result of a direct response to operational wind turbines. A distributional response may impact bird populations by affecting site usage which may be for foraging, resting or moulting purposes. As a result of displacement, an individual bird may experience a decrease in fitness, due to the effect of re-locating to alternative foraging grounds and or changes to energy budgets due to the increased energy expenditure when avoiding a wind farm. These impacts, in turn, may have indirect effects on birds in areas that may be some distance from the wind farm, including reduced energy acquisition as a result of increased competition at other foraging sites which can result in further reductions in fitness affecting reproductive success.

5.2.5.5 The displacement assessment for relevant qualifying features is primarily based on the use of the displacement matrix approach (JNCC *et al.,* 2022), which was agreed during consultation with NatureScot (Table 2.1). Seabirds may not be displaced solely from the Morven South Boundary, but also a Zone of Influence (ZoI) around the array. This ZoI is defined as Morven South plus a 2km buffer in all directions, in line with the recommended approach (NatureScot 2023f; JNCC *et al.,* 2022). Therefore, all species, seasonal mean peak abundances used for displacement analysis are based on the abundance within Morven South plus 2km buffer.

5.2.5.6 The consequences of a distributional response can include displacement and potentially mortality, with percentage values applied for these. These are presented in Table 5.3 in terms of the values defined in NatureScot (2023f) alongside values that represent the Applicant's approach. Assessments are conducted using both sets of values are provided to enable a comparison to be made. A full discussion on the rates used and full approach of the displacement assessment is provided in Volume 3, Annex 11.4: Offshore Ornithology Displacement Modelling Report (Matrix Approach), of the EIA Report.

Table 5.3: Displacement and mortality rates included for consideration in assessment

Species	Displacement rate (%)		Mortality rate (%)		
	NatureScot's approach	Applicant's approach	NatureScot's approach		Applicant's approach
			Breeding season	Non-breeding season	All seasons
Kittiwake	30	30	1 and 3	1 and 3	1
Guillemot	60	50	3 and 5	1 and 3	1
Razorbill	60	50	3 and 5	1 and 3	1
Puffin	60	50	3 and 5	1 and 3	1
Gannet	70	70	1 and 3	1 and 3	1
Fulmar	20	10	1 and 3	1 and 3	1

5.2.6 Collision risk

5.2.6.1 This impact relates to the potential for mortality arising from birds colliding with turbine structures, which will be present at Morven South once operational. Therefore, the ZoI defined for collision risk is the Morven South Boundary only.

5.2.6.2 Operational wind turbines and associated infrastructure present a collision risk for seabirds flying within Morven South. This includes birds commuting between breeding and foraging sites, migrating birds, and those foraging for food within Morven South. Direct collision with infrastructure may result in injury or death, however, it is assumed that all collisions with operational wind turbines result in mortality.

5.2.6.3 Collision risk modelling was undertaken using the Stochastic Collision Risk Model (sCRM) (Caneco and Humphries, 2022) which is based on the stochLAB R package as recommended by JNCC *et al.* (2024b) and NatureScot (2025b). The input parameters used to parameterise moels for each species are presented in Volume 3, Annex 11.2: Offshore Ornithology Collision Risk Modelling Report, of the EIA Report.

5.2.6.4 Flight height and density information, along with the wind turbine specifications, number of wind turbines, and other seabird parameters (e.g. size, flight type and nocturnal activity), are used to estimate the number of collisions. Initially, the model assumes that birds within the wind farm do not avoid individual wind turbines, swept areas, or blades, nor do they avoid the whole wind farm (macro-avoidance). Avoidance rates are then applied to adjust collision estimates.

5.2.6.5 Flight height distribution data for each species has been derived from Johnston *et al.* (2014) which provides generic flight height distributions for all of the species for which collision risk modelling was required at Morven South.

5.2.6.6 Collision risk modelling has incorporated draft guidance on recommended avoidance rates, bird size, flight speed, flight type, and nocturnal activity scores from NatureScot (NatureScot, 2025). Throughout the document, outputs using NatureScot's recommended input parameter values have been presented alongside outputs calculated using different input parameter values for certain parameters (e.g. flight speed and avoidance rate) which the Applicant considers represent the best available evidence. By presenting outputs calculated using different input parameters, the uncertainty associated with different parameters can be explored. The input parameter values used in collision risk modelling for each species are presented in Table 5.4.

5.2.6.7 Collision risk estimates for the species considered within this RIAA Part 3, calculated using stochastic modelling approaches, are presented in Table 5.5. 70% macro-avoidance rates have been applied to estimates for gannet in the post-breeding and pre-breeding seasons in the NatureScot approach, and in all seasons in the Applicant approach. Complete results of both stochastic and deterministic modelling approaches following NatureScot advice, are presented in Volume 3, Annex 11.2: Offshore Ornithology Collision Risk Modelling Report, of the EIA Report.

Table 5.4: Species parameters and input parameters used in collision risk modelling

Parameter	Approach	Source	Kittiwake	Gannet
Bird length (m)	NatureScot and Applicant	JNCC *et al.* (2024)	0.39 (±0.005)	0.94 (±0.0325)
Wingspan (m)	NatureScot and Applicant	JNCC *et al.* (2024)	1.08 (±0.0625)	1.72 (±0.0375)

Parameter	Approach	Source	Kittiwake	Gannet
Flight speed (m/s)	NatureScot	Alerstam *et al*. (2007)/JNCC *et al*. (2024)	13.1 (± 0.40)	-
	NatureScot	Pennycuick (1997) /JNCC *et al*. (2024)	-	14.9 (± 0)
	Applicant	Skov *et al*. (2018)	8.71 (±3.16)	13.33 (±4.24)
Nocturnal activity factor	NatureScot and Applicant	Cook *et al*. (2023)	0.40 (±0.12)	0.14 (±0.10)
	NatureScot and Applicant	Garthe and Hüppop (2004)	-	-
Flight type	NatureScot and Applicant	JNCC *et al*. (2024)	Flapping	Gliding
Proportion of flights upwind (%)	NatureScot and Applicant	JNCC *et al*. (2024)	50	50
Updated Avoidance rate	Applicant (gannet) NatureScot (kittiwake and gannet)	Ozsanlav-Harris *et al*. (2023) (all gull rate)	0.9929 (±0.0003)	0.9929 (±0.0003)
	Applicant	Ozsanlav-Harris *et al*. (2023) (species-specific rate)	0.9979 (±0.0013)	-

Table 5.5: Seasonal collision risk estimates for gannet and kittiwake associated with Morven South, using a stochastic model

Species	Position	Seasonal collision risk estimates (no. of birds)				Total impact (no. of birds)
		Breeding	Post-breeding	Non-breeding	Pre-breeding	
Gannet	NatureScot	12.7	0.2		0.2	13.1
	Applicant	3.4	0.2		0.2	3.8
Kittiwake	NatureScot	6.6	1.6		2.0	10.2
	Applicant	1.5	0.4		0.5	2.4

5.2.7 Barrier effects

5.2.7.1 JNCC *et al.* (2022) defines barrier effects as "a physical factor that limits the migration, or free movement of individuals or populations, thus requiring them to divert from their intended path in order to reach their original destination. This effect is expected to increase the energy expenditure of birds if they have to fly around the area in question in order to reach their goal".

5.2.7.2 Once Morven South is operational, the presence of wind turbines could create a barrier to the movements of flying birds. This could lead to permanent changes in the flight routes of birds, which in turn would lead to an increase in energy demands, and could result in reduced breeding success and/or reduced survival rates. The ZoI for barrier to movement is defined as the Morven South Boundary only, as there is no impact on birds which would not fly through the Morven South Boundary.

5.2.7.3 Barriers to movement could affect birds that would pass through Morven South on their annual migrations, and also birds that would pass through Morven South during their daily movements between their roosting/breeding area and foraging sites. The latter of these scenarios may impose an additional energetic cost to movements at a key period in the annual cycle when seabirds are making daily commutes between foraging grounds at sea and breeding sites. Additional energetic costs could have long term implications for individuals, impacting bird fitness (breeding productivity and survival) and for populations. Barrier effects are considered to be less impactful when affecting migratory flights as avoidance of a single wind farm may be trivial relative to the total length and cost of the journey (Masden *et al.,* 2010; 2012).

5.2.7.4 For breeding seabirds, NatureScot (2023f) consider barrier effects alongside displacement as "distributional responses". This is because it can be difficult to distinguish barrier effects from the effects of displacement for breeding seabirds foraging in the region. NatureScot (2023f) advise that distributional responses are assessed using the matrix approach, and therefore for breeding seabirds, no separate assessment of barrier to movement is carried out, with the assessments presented for disturbance and displacement considered to address any potential impacts arising from barrier effects. The assessments for barrier effects for relevant qualifying features therefore only consider potential impacts of barriers to movement during migratory seasons.

5.2.8 Attraction to light

5.2.8.1 There is the potential for artificial light associated with offshore wind farms to impact birds during the construction, operations and maintenance, and decommissioning phases.

5.2.8.2 Seabirds may be affected by offshore lighting via phototaxis (attraction to light which could potentially operate over ranges of tens of kilometres) and/or disorientation (the alteration of flight paths of birds within tens of metres of artificial light). Lit offshore structures may provide seabirds with opportunities for extended feeding periods, shelter, and resting places. They may also act as navigational aids for migrating birds. Artificial lighting may attract prey close to the sea surface, increasing foraging opportunities and prey availability – many fisheries specifically use artificial light to attract prey.

5.2.8.3 During the construction and decommissioning phases, construction and support vessels often use large-scale, continuous, broad-spectrum lighting for operational and safety reasons. These lights may potentially attract seabirds and/or modify the behaviour of seabirds in their proximity (Deakin *et al.*, 2022).

5.2.8.4 In the operations and maintenance phases light sources include turbines, associated infrastructure, and vessel lighting. It is a requirement for navigational and aviation safety that offshore wind farms include safety lighting. These lights may attract seabirds and/or modify the behaviour of seabirds in their proximity (Deakin *et al.*, 2022). The impacts of artificial lighting in the operations and maintenance phase are expected to be the same as or less than

the impacts at the construction phase, as the construction phase is expected to involve greater light levels (Deakin *et al.*, 2022).

5.2.8.5 Consideration of impacts associated with the attraction of relevant qualifying features to the light associated with Morven South has been undertaken qualitatively. A thorough review of the potential for each relevant qualifying feature to light has been undertaken and contextualised against the nature of lighting to be deployed at Morven South.

5.3 Baseline

5.3.1 Project-specific baseline

5.3.1.1 Table 5.6 presents the results of the site-specific digital aerial surveys undertaken across Morven South between June 2021 and September 2023. A full description of the results of the site-specific baseline digital aerial surveys is provided in Volume 3, Annex 11.1 Offshore Ornithology Baseline Characterisation Report. Table 5.6 also presents the results of the digital aerial surveys undertaken as part of the regional surveys covering part of the Scottish North Sea (HiDef Aerial Surveying Limited, 2023).

Table 5.6: Summary of the abundance and distribution of seabird species recorded during site-specific baseline Digital Aerial Surveys and regional digital aerial surveys covering part of the Scottish North Sea

Species	Site-specific abundance and distribution	Regional abundance and distribution
Kittiwake	Kittiwakes were recorded in all but one of the aerial surveys undertaken across the Morven South Offshore Ornithology Study Area. The peak count of 3,586 birds occurred in June 2021. The species was most abundant towards the end of the breeding season (June and July) in 2021 and 2022 with the peak population in 2023 occurring in May 2023 (274 birds). Outside of the breeding season the abundance of the species was generally lower than that recorded in the breeding season. The distribution of kittiwake varies across surveys with no obvious trends between years or seasons.	Kittiwakes were recorded in all the surveys undertaken as part of the regional surveys covering part of the Scottish North Sea (HiDef Aerial Surveying Limited, 2023) with the highest numbers during the breeding season. The distribution of kittiwake in the breeding season was often centred on the western side of the survey area, especially during surveys undertaken in 2022, and therefore not overlapping with the Morven South Offshore Ornithology Study Area. In the non-breeding seasons there was no obvious trend in the distribution of kittiwake across the survey area
Herring gull	Herring gulls were recorded within the Morven South Offshore Ornithology Study Area in five of the baseline aerial surveys. The peak population in the non-breeding season (September to March) occurred in October 2022 and September 2023 (nine birds). In the breeding season (April to August), the peak population was recorded in June 2021 (nine birds). In all months, the number of birds recorded was too low to detect any trends in the distribution of the species in the Morven South Offshore Ornithology Study Area.	Herring gulls were recorded in 12 of the surveys undertaken as part of the regional surveys covering part of the Scottish North Sea (HiDef Aerial Surveying Limited, 2023). Less than 20 birds were recorded in all surveys except June and July 2022 (43 birds in both surveys), November 2022 (24 birds) and June 2023 (119 birds). Birds occurred in the Morven South Offshore Ornithology Study Area in the breeding season, although there was no trend in the distribution of this species. The species was not recorded during a number of non-breeding months but did occur in the Morven South Offshore Ornithology Study Area in the February 2023 survey.
Guillemot	Guillemots were recorded in all of the baseline aerial surveys undertaken across the Morven South Offshore Ornithology Study Area. The species was most abundant towards the end of the breeding season and the post-breeding season (June to August) in both years although this was more pronounced in 2022. It is considered that these populations represent post-breeding dispersal movements from breeding colonies. The peak population was recorded in August 2022 (20,180	Guillemots were recorded in all of the surveys undertaken as part of the regional surveys covering part of the Scottish North Sea (HiDef Aerial Surveying Limited, 2023) with the highest numbers during the breeding season, although numbers were lower in the second year of surveys. A peak count of 28,036 birds was recorded in the July 2022 survey.

Species	Site-specific abundance and distribution	Regional abundance and distribution
	birds). Outside of this period the abundance of the species was considerably lower. During the breeding season, densities were generally higher in the northern sector of the Morven South Offshore Ornithology Study Area, especially between May and July. There was no obvious trend in the distribution of guillemot in the non-breeding season,	In the breeding season guillemots were abundant throughout the survey area including the Morven South Offshore Ornithology Study Area. There was a westerly bias in the distribution in May 2022 with this occurring more regularly in the second breeding season. In the August 2022 and 2023 surveys there was a northerly bias in the distribution of guillemot with birds tending to exhibit a more offshore distribution in the non-breeding season.
Razorbill	Razorbills were recorded in all but two of the baseline aerial surveys undertaken across the Morven South Offshore Ornithology Study Area. The species was most abundant towards the end of the breeding season and the start of the non-breeding season (July and August) of 2021 and 2022 with the peak population recorded in August 2022 (6,075 birds). Outside of this period the abundance of the species was considerably lower with the exception of June 2021 and November 2022. There was no obvious trend in the distribution of razorbill on a seasonal or annual basis	Razorbills were recorded in all of the surveys undertaken as part of the regional surveys covering part of the Scottish North Sea (HiDef Aerial Surveying Limited, 2023) with the highest numbers during the breeding season, although numbers were lower in the second year of surveys. A peak count of 3,095 birds was recorded in the July 2022 survey. The species was widespread throughout the survey area during the July 2022 survey whereas there was a westerly bias in the distribution of razorbill during the July 2023 survey which did not overlap with the Morven South Offshore Ornithology Study Area. In the remaining surveys undertaken in the breeding season there was no obvious trend in the distribution of the species, with far fewer birds present, when compared to the July surveys, with birds not always recorded in the Morven South Offshore Ornithology Study Area. There was also no obvious trend in the distribution of the species in the non-breeding season with birds recorded in the Morven South Offshore Ornithology Study Area in some surveys
Puffin	Puffins were recorded in 22 of the baseline aerial surveys undertaken across the Morven South Offshore Ornithology Study Area. The species was most abundant towards the end of the breeding season and the start of the non-breeding season (mid-August and September) in 2021 and 2022 with the highest populations in 2023 occurring in May and June. Outside of these periods, population estimates were considerably lower. The peak population in the breeding	Puffins were recorded in all of the surveys undertaken as part of the regional surveys covering part of the Scottish North Sea (HiDef Aerial Surveying Limited, 2023) with the highest numbers during the breeding season, although numbers were lower in the second year of surveys. A peak count of 1,023 birds was recorded in the July 2022 survey. In the July 2022 survey, there was a southerly bias in the distribution of the species whereas in the August 2022

Species	Site-specific abundance and distribution	Regional abundance and distribution
	season (mid-April to August) occurred in June 2021 (318 birds). The peak population in the non-breeding season (mid-August to March) occurred in September 2022 (907 birds). There was no obvious trend in the distribution of puffin on a seasonal or annual basis.	survey there was a northerly bias in the distribution of the species. In other breeding season months there was no obvious trend in the distribution of the species. Very few puffins were recorded in the November 2022 and January 2023 surveys with no obvious trend in the distribution of puffin in all surveys conducted in the non-breeding season
Fulmar	Fulmars were recorded in all of the baseline aerial surveys undertaken across the Morven South Offshore Ornithology Study Area. The species was most abundant in the post-and non-breeding seasons of 2021 and in June 2022. The peak population estimated in the breeding season (April to September) occurred in August 2021 (714 birds). The peak population estimated in the post-breeding season (October) occurred in October 2021 (635 birds) with the peak population in the non-breeding season (November) in November 2021 (659 birds). The peak population in the pre-breeding season (December to March) occurred January 2023 (285 birds). There was no obvious trend in the distribution of fulmar on a seasonal or annual basis.	Fulmars were recorded in all of the surveys undertaken as part of the regional surveys covering part of the Scottish North Sea (HiDef Aerial Surveying Limited, 2023). Over 100 birds were recorded in all surveys except the April 2023 survey with a peak of 1,306 birds in September 2022. There was no obvious trend in the distribution of fulmars in the majority of surveys. In the September and November 2022 and August 2023 surveys there was a northerly bias in the distribution of fulmars.
Gannet	Gannets were recorded in all but one of the baseline aerial surveys conducted across the Morven South Offshore Ornithology Study Area. The abundance of the species was generally higher in the breeding season increasing from April to a peak in either June or August and then declining into the post-breeding season. The abundance of the species was considerably lower between December and February. The peak population estimated in the breeding season (March to September) occurred in July 2021 (1,397 birds). The peak population estimated in the post-breeding season (October to November) occurred in October 2021 (166 birds), and the peak population in the pre-breeding season (December to February) occurred in December 2022 (46 birds). There was no obvious trend in the distribution of gannet on a seasonal or annual basis.	Gannets were recorded in all of the surveys undertaken as part of the regional surveys covering part of the Scottish North Sea (HiDef Aerial Surveying Limited, 2023) with the highest numbers in the breeding season, although fewer birds in the second year of surveys. A peak count of 884 birds was recorded in May 2022. There was no obvious trend in the distribution of gannet in any survey.

5.3.2 Special Protection Areas

5.3.2.1 The following sections provide information relevant to the SPAs and associated qualifying features for which the potential for LSE[2] could not be ruled out in RIAA Part 1, including site descriptions, feature accounts, conservation objectives and condition assessments.

Site descriptions

5.3.2.2 Site descriptions for all SPAs for which the potential for LSE[2] could not be ruled out are provided in Table 5.7.

Table 5.7: Site descriptions for all Special Protection Areas for which Likely Significant Effects[2] have been identified in relation to impacts associated with Morven South

Special Protection Area	Site description
Outer Firth of Forth and St Andrews Bay Complex SPA	The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA) is a large estuarine/marine site on south-east coast of Scotland consisting of the two closely adjacent Firths of Forth and Tay. In the mid Firth of Forth a belt of mud-rich sediments lies between areas of sandy gravels and shell material on either side along the shore. As the estuary widens towards the outer firth, there are extensive areas of sandy and gravelly muds and fine sediments. In contrast St Andrews Bay contains clean sands and gravel with only small areas of muddy sediments. Water depth is variable but large areas, in both the Firth of Forth and St Andrews Bay, are shallow and less than 10m deep. The area supports a wide variety of both pelagic and demersal fish, including sandeels, and crustaceans, molluscs and marine worms, all of which, especially sandeels, comprise the prey of the waterfowl species
Fowlsheugh SPA	Fowlsheugh SPA, located 4km south of Stonehaven on the east coast of Aberdeenshire in north-east Scotland, is a 10.15ha stretch of sheer cliffs, between 30m and 60m high, cut mostly from basalt and conglomerate rocks of Old Red Sandstone age. The boundary of the SPA overlaps with the boundaries of Fowlsheugh SSSI. The seaward extension extends 2km into the marine environment and includes the seabed, water column and surface.
Northumberland Marine SPA	The Northumberland Marine SPA is located on the Northumberland coast between Blyth and Berwick-Upon-Tweed. The site supports a wide range of marine habitats. The coastal parts of the site consist of sandy bays separated by rocky headlands backed by dunes or soft and hard cliffs. There are extensive areas of inter-tidal rocky reef, long sandy beaches at Beadnell, Embleton and Druridge Bay and extensive sand and mud flats at Budle Bay and Fenham Flats at Lindisfarne. The Northumberland coast and surrounding sea supports important breeding colonies of seabirds and auks, protected at four existing SPAs: Farne Islands SPA, Coquet Island SPA, Lindisfarne SPA and Northumbria Coast SPA. The surrounding waters are protected by Northumberland Marine SPA, these areas are used by the seabirds and auks for foraging and maintenance activities, such as bathing and preening.
Buchan Ness to Collieston Coast SPA	Buchan Ness to Collieston Coast SPA is a stretch of south-east facing cliff in Aberdeenshire, Scotland. The 15km stretch of cliffs, formed of granite, quartzite and other rocks, runs south of Peterhead, broken only by the sandy beach of Cruden Bay. The varied coastal vegetation on the ledges and the cliff tops includes maritime heath, grassland and brackish flushes. The boundary of the SPA follows the boundaries of Bullers of Buchan Coast SSSI and Collieston to Whinnyfold Coast SSSI, and the seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
Farne Islands SPA	The Farne Islands are a group of rocky Islands stretching from between 2.4 to 7.6 kilometres offshore. The islands are rocky plateaus formed from Whin Sill rock, the total area of all the islands is 101ha consisting of 15 – 20 islands depending

Special Protection Area	Site description
	on tide, they are split into the Inner Farnes and the Outer Farnes. The botanical interest is limited but the islands are famous as a breeding ground for grey seal and as a seabird nesting colony.
St Abb's Head to Fast Castle SPA	St Abb's Head to Fast Castle SPA comprises an area of sea cliffs and coastal strip stretching over 10km along the Berwickshire Coast north of St Abbs. The boundary of the SPA overlaps with that of St Abb's Head to Fast Castle SSSI, and the seaward extension extends approximately 1km into the marine environment to include the seabed, water column and surface.
Forth Islands SPA	Forth Islands SPA consists of a series of islands supporting the main seabird colonies in the Firth of Forth. The islands of Inchmickery, Isle of May, Fidra, The Lamb, Craigleith and Bass Rock were classified on 25 April 1990. The extension to the site, classified on the 16 February 2004 consists of the island of Long Craig, which, at the time of classification, supported the largest colony of roseate tern in Scotland. It is the most northerly of only six regular British colonies. The seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface. The boundary of the SPA overlaps with the boundaries of the following Sites of Special Scientific Interest: Long Craig, Inchmickery, Forth Islands, Bass Rock and the Isle of May. A small overlap also occurs with the Firth of Forth SPA.
Coquet Island SPA	Coquet Island is a small uninhabited island which lies less than a mile off the coast of Northumberland, near Amble, in the north east of England. The island is managed by the RSPB and consists of a flat grassy plateau, surrounded by low sandstone cliffs and intertidal boulders and rock. The total area of the island at mean low water is 22 ha.
Troup, Pennan and Lion's Heads SPA	The Troup, Pennan and Lion's Heads Special Protection Area is a 9km stretch of sea cliffs along the Aberdeenshire coast. The cliffs support large colonies of breeding seabirds. The boundary of the Special Protection Area overlaps with the boundary of Gamrie and Pennan coast SSSI and the seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
East Caithness Cliffs SPA	East Caithness Cliffs SPA is of special nature conservation and scientific importance within Britain and the European Community for supporting very large populations of breeding seabirds. It includes most of the sea-cliff areas between Wick and Helmsdale on the north-east coast of the Scottish mainland. The boundary of the SPA overlaps either partly or wholly with the following Sites of Special Scientific Interest (SSSI): Castle of Old Wick to Craig Hammel SSSI, Craig Hammel to Sgaps Geo SSSI, Dunbeath to Sgaps Geo SSSI, Berriedale Cliffs SSSI, Ousdale Burn SSSI and Helmsdale Coast SSSI. The seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
Flamborough and Filey Coast SPA	The Flamborough and Filey Coast SPA straddles the border of East Yorkshire and North Yorkshire at the western coast of the North Sea. It has two sections - Flamborough to the south, and Filey to the north - both encompassing clifftop, sea cliff and intertidal rock habitats and offshore to 2km. It extends inland in the sections running from Cunstone Nab in the north

Special Protection Area	Site description
	to Carr Naze at the corner of Filey Brigg, then from the south of Filey Bay at Reighton to it's southern most point at Sewerby steps. The expanse of Filey Bay divides these two inland sections, but is not included in the designation.
North Caithness Cliffs SPA	North Caithness Cliffs SPA is of special nature conservation and scientific importance within Britain and the European Community for supporting very large populations of breeding seabirds. The site overlaps either partly or wholly with Duncansby Head Site of Special Scientific Interest (SSSI), Stroma SSSI, Dunnet Head SSSI, Holborn Head SSSI, and Red Point Coast SSSI. The seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
Copinsay SPA	The Copinsay Special Protection Area comprises a group of islands 4km off the east coast of Orkney Mainland. The islands have a cliffed rocky coastline and maritime vegetation that support large colonies of breeding seabirds. The boundary of the SPA encompasses Copinsay SSSI, and the seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
Hoy SPA	Hoy is a mountainous island at the south-western end of the Orkney archipelago. Hoy SPA covers the northern and western two-thirds of the island of Hoy, which is formed of Old Red Sandstone and contains Orkney's highest hills, and adjacent coastal waters. The SPA supports an extremely diverse mixture of mire, heath and alpine vegetation and Britain's most northerly native woodland. These upland areas and the high sea cliffs at the coast support an important assemblage of moorland breeding birds and breeding seabirds. The boundary of Hoy SPA overlaps with that of Hoy SSSI, and the seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
Fair Isle SPA	Fair Isle is an Old Red Sandstone island, the most southerly of the Shetland group, lying halfway between Mainland and Orkney. It has a rocky, cliff coastline with adjacent coastal waters, heather moorland, acidic grassland, maritime grassland and crofting in-bye. The boundary of Fair Isle SPA is coincident with Fair Isle SSSI. The seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface
West Westray SPA	West Westray SPA is an 8km stretch of sea cliffs, together with adjacent grassland and heathland, along the west coast of the island of Westray in Orkney. The cliffs support large colonies of breeding auks and kittiwakes while the grassland and heathland areas support breeding colonies of skuas and terns. The boundary of the SPA overlaps with that of the West Westray SSSI, and the seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
Noss SPA	Noss SPA is an offshore island lying 5km east of Lerwick, Shetland. It supports breeding seabirds on cliffs and also on inland heathlands and grasslands. The boundary of the SPA overlaps that of the Noss SSSI and National Nature Reserve and the seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.

Special Protection Area	Site description
Foula SPA	Foula is the most westerly of the Shetland Islands which are situated to the north of the Scottish mainland and Orkney. It lies 20km west of Shetland Mainland. Foula SPA consists of a rocky coastline, large areas of mire, and adjacent coastal waters which support internationally important breeding populations of seabirds. The boundary of the Special Protection Area overlaps with the boundary of Foula SSSI and Foula Coast SSSI, and the seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
Hermaness, Saxa Vord and Valla Field SPA	Hermaness, Saxa Vord and Valla Field Special Protection Area lies in the north-west corner of the island of Unst, Shetland, at the northernmost tip of Britain. It consists of 100-200 m high sea cliffs and adjoining areas of grassland, heath and blanket bog. The boundary of the SPA is coincident with that of the Hermaness SSSI, Saxa Vord SSSI, and Valla Field SSSI. The seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface. Part of the site (Hermaness SSSI and Saxa Vord SSSI) was previously classified as Hermaness and Saxa Vord SPA on 29 March 1994 for fulmar *Fulmarus glacialis*, Northern gannet *Morus bassanus*, great skua *Catharacta skua*, guillemot *Uria aalge* and Atlantic puffin *Fratercula arctica*.
Fetlar SPA	Fetlar is an island in the Shetland group, lying to the east and south respectively of the larger islands of Yell and Unst. The species-rich heath, bog and mire communities on the island support an important and characteristic breeding bird community, with the cliffs, rocky shores, and adjacent coastal waters important for breeding seabirds. Fetlar SPA overlaps North Fetlar SSSI, Lamb Hoga SSSI and Trona Mires SSSI. The seaward extension extends approximately 2km into the marine environment to include the seabed, water column and surface.
St Kilda SPA	St Kilda is a group of remote Scottish islands lying in the North Atlantic about 70km west of North Uist in the Outer Hebrides. The islands are steep, with precipitous cliffs reaching 430 m on Hirta and 380 m on Soay and Boreray. The vegetation is strongly influenced by sea spray and the presence of seabirds and livestock. Inland on Hirta, species-poor acidic grassland and sub-maritime heaths occupy extensive areas. The islands provide a strategic nesting locality for seabirds that feed in the rich waters to the west of Scotland. The total population of seabirds exceeds 600,000 individuals, making this one of the largest concentrations in the North Atlantic and the largest in the UK. The boundary of the SPA overlaps with the boundary of St Kilda SSSI, and the seaward extension extends approximately 4km into the marine environment to include the seabed, water column and surface.

Feature accounts

5.3.2.3 Feature accounts for all qualifying features for which the potential for LSE[2] could not be ruled out are provided in Table 5.8. Table 5.8 also includes the current condition assessment for each qualifying features. The assessments presented in section 5.3.3, specifically those that quantify associated impacts, require population data for each feature against which impacts can be compared. Impacts are calculated using baseline survey data collected between June 2021 and September 2023. The most contemporaneous dataset against which impacts can be compared is therefore the population data presented in Burnell *et al.* (2023) with these populations presented in Table 5.8.

Conservation objectives

5.3.2.4 Conservation objectives for all qualifying features for which the potential for LSE[2] could not be ruled out are provided in Table 5.9. Conservation objectives for assemblage features are not defined in the conservation and management advice documents associated with SPAs as conservation objectives are defined for each qualifying feature or named qualifier that forms part of the assemblage.

Table 5.8: Populations for qualifying features at Special Protection Areas for which Likely Significant Effects has been identified in relation to impacts associated with Morven South

Special Protection Area	Features for which the potential for LSE[2] could not be ruled out	Population size at designation (breeding adults, unless otherwise stated)	Population from Seabirds Count (Burnell *et al.*, 2023) (breeding adults)	Condition Assessment
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake	Breeding: 12,020 individuals Wintering: 3,191 individuals	No colonies within SPA	Favourable, maintained
	Herring gull	Wintering: 12,313 individuals	No colonies within SPA	Favourable, maintained
	Guillemot	Wintering: 21,968 individuals	No colonies within SPA	Favourable, maintained
	Razorbill	Wintering: 5,481 individuals	No colonies within SPA	Favourable, maintained
	Puffin	Breeding: 61,086 individuals	No colonies within SPA	Favourable, maintained
	Gannet	Breeding: 10,945 individuals	No colonies within SPA	Favourable, maintained
	Red-throated diver	Wintering: 851 individuals	Unavailable	Favourable, maintained
	Slavonian grebe	Wintering: 30 individuals	Unavailable	Favourable, maintained
	Eider	Wintering: 21,546 individuals	Unavailable	Favourable, maintained
	Shag	Wintering: 2,426 individuals	Unavailable	Favourable, maintained
	Long-tailed duck	Wintering: 1,948 individuals	Unavailable	Favourable, maintained
	Common scoter	Wintering: 4,677 individuals	Unavailable	Favourable, maintained
	Velvet scoter	Wintering: 775 individuals	Unavailable	Favourable, maintained
	Goldeneye	Wintering: 589 individuals	Unavailable	Favourable, maintained

Special Protection Area	Features for which the potential for LSE[2] could not be ruled out	Population size at designation (breeding adults, unless otherwise stated)	Population from Seabirds Count (Burnell *et al.*, 2023) (breeding adults)	Condition Assessment
	Red-breasted merganser	Wintering: 431 individuals	Unavailable	Favourable, maintained
	Seabird assemblage, breeding	n/a	n/a	Not assessed
	Seabird assemblage, non-breeding	n/a	n/a	Favourable, maintained
Fowlsheugh SPA	Herring gull	6,380	2,070	Unfavourable, no change
	Kittiwake	73,300	28,078	Unfavourable, declining
	Guillemot	75,643	93,570	Favourable maintained
	Razorbill	7,772	20,990	Favourable, maintained
	Seabird assemblage, breeding	n/a	n/a	Favourable, maintained
Northumberland Marine SPA	Fulmar	682	No colonies within SPA	Not assessed
	Kittiwake	8,667 breeding adults	No colonies within SPA	Not assessed
	Puffin	108,484 individuals	No colonies within SPA	Not assessed
	Razorbill	572	No colonies within SPA	Not assessed
	Seabird assemblage, breeding	n/a	n/a	Not assessed
Buchan Ness to Collieston Coast SPA	Kittiwake	60,904	22,590	Unfavourable, no change
	Guillemot	11,578	39,440	Favourable, maintained
	Seabird assemblage, breeding	n/a	n/a	Favourable, recovered

Special Protection Area	Features for which the potential for LSE[2] could not be ruled out	Population size at designation (breeding adults, unless otherwise stated)	Population from Seabirds Count (Burnell *et al.*, 2023) (breeding adults)	Condition Assessment
Farne Islands SPA	Kittiwake	8,241	8,804	Not assessed
	Puffin	76,798	87,504	Not assessed
	Seabird assemblage, breeding	n/a	n/a	Not assessed
St Abb's Head to Fast Castle SPA	Kittiwake	43,340	10,300	Unfavourable, recovering
	Guillemot	42,545	61,513	Favourable, maintained
	Razorbill	2,921	4,381	Favourable, maintained
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, declining
Forth Islands SPA	Gannet	43,200	150,518	Favourable, maintained
	Kittiwake	16,800	9,084	Unfavourable, no change
	Puffin	28,000	85,846	Favourable, maintained
	Razorbill	1,876	8,500	Favourable, maintained
	Guillemot	21,440	35,584	Favourable, maintained
	Seabird assemblage, breeding	n/a	n/a	Favourable, declining
Coquet Island SPA	Fulmar	125	106	Not assessed
	Kittiwake	426	932	Not assessed
	Puffin	31,686	50,058	Not assessed

Special Protection Area	Features for which the potential for LSE[2] could not be ruled out	Population size at designation (breeding adults, unless otherwise stated)	Population from Seabirds Count (Burnell *et al.*, 2023) (breeding adults)	Condition Assessment
	Seabird assemblage, breeding	n/a	n/a	Not assessed
Troup, Pennan and Lion's Heads SPA	Kittiwake	63,200	21,232	Unfavourable, declining
	Guillemot	59,764	31,948	Unfavourable, recovering
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, declining
East Caithness Cliffs SPA	Kittiwake	65,000	48,958	Favourable declining
	Fulmar	30,000	27,928	Favourable maintained
	Razorbill	21,172	44,969	Favourable, maintained
	Seabird assemblage, breeding	n/a	n/a	Favourable, maintained
Flamborough and Filey Coast SPA	Gannet	16,938	26,784	Not assessed
	Fulmar	2,894	2,514	Not assessed
	Kittiwake	89,040	103,070	Not assessed
	Puffin	1,960	8,558	Not assessed
	Razorbill	14,164	45,116	Not assessed
	Seabird assemblage, breeding	n/a	n/a	Not assessed
North Caithness Cliffs SPA	Fulmar	29,400	30,740	Favourable, maintained
	Kittiwake	26,200	11,142	Unfavourable, no change

Special Protection Area	Features for which the potential for LSE[2] could not be ruled out	Population size at designation (breeding adults, unless otherwise stated)	Population from Seabirds Count (Burnell *et al.*, 2023) (breeding adults)	Condition Assessment
	Puffin	4,160	6,078	Unfavourable, declining
	Seabird assemblage, breeding	n/a	n/a	Favourable, maintained
Copinsay SPA	Kittiwake	19,100	1,910	Unfavourable declining
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, no change
Hoy SPA	Fulmar	70,000	41,082	Unfavourable, no change
	Kittiwake	6,000	532	Unfavourable, no change
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, declining
Fair Isle SPA	Fulmar	70,420	64,982	Favourable, maintained
	Gannet	2,332	9,942	Favourable, maintained
	Puffin	46,000	13,332	Unfavourable, Declining
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, no change
West Westray SPA	Kittiwake	47,800	5,510	Unfavourable, declining
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, declining
Noss SPA	Fulmar	12,700	10,184	Unfavourable, no change
	Gannet	13,720	27,530	Favourable, maintained
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, declining

Special Protection Area	Features for which the potential for LSE[2] could not be ruled out	Population size at designation (breeding adults, unless otherwise stated)	Population from Seabirds Count (Burnell *et al.*, 2023) (breeding adults)	Condition Assessment
Foula SPA	Fulmar	93,600	20,506	Unfavourable, no change
	Puffin	96,000	8,468	Unfavourable, no change
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, declining
Hermaness, Saxa Vord and Valla Field SPA	Fulmar	39,078	26,416	Unfavourable, declining
	Gannet	32,800	59,124	Favourable, maintained
	Puffin	110,000	28,750	Unfavourable, recovering
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, declining
Fetlar SPA	Fulmar	19,000	18,354	Favourable, recovered
	Seabird assemblage, breeding	n/a	n/a	Unfavourable, declining
St Kilda SPA	Gannet	100,100	120,580	Favourable, maintained
	Seabird assemblage, breeding	n/a	n/a	Favourable, maintained

Table 5.9: Conservation objectives for all Special Protection Areas and associated qualifying features for which Likely Significant Effects have been identified in relation to impacts associated with Morven South

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
Fowlsheugh SPA	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Herring gull Kittiwake Guillemot Razorbill
	2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a The populations of the qualifying features are viable components of the Fowlsheugh SPA.	• Ensure the breeding population of herring gull have the ability to recover to the site reference population. • Ensure herring gulls are not at significant risk from injury or mortality. • Ensure herring gull can move safely between the site and important areas of functionally linked land and sea outwith the site.	Herring gull
		• Ensure the breeding population of kittiwake have the ability to recover to the site reference population • Ensure kittiwakes are not at significant risk from injury or mortality. • Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.	Kittiwake
		• Maintain the breeding population of guillemot at a stable or increasing trend relative to the current site reference population. • Ensure guillemots are not at significant risk from injury or mortality. • Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.	Guillemot

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Maintain the breeding population of razorbills at a stable or increasing trend relative to the current site reference population. • Ensure razorbills are not at significant risk from injury or mortality. • Ensure razorbills can move safely between the site and important areas of functionally linked sea outwith the site.	Razorbill
	2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	• Ensure herring gulls continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to herring gulls and ensure individuals can move safely between these areas within the site.	Herring gull
		• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safety between these areas within the site.	Kittiwake
		• Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.	Guillemot
		• Ensure razorbill continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	Razorbill

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Avoid significant disturbance to razorbill and ensure individuals can move safely between these areas within the site.	
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Fowlsheugh SPA.	• Maintain the extent and distribution of the supporting habitats for herring gulls within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Herring gull
		• Maintain the breeding population of kittiwake at a stable or increasing trend relative to the current site reference population. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats.	Kittiwake
		• Maintain the extent and distribution of the supporting habitats for guillemots within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats.	Guillemot

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Maintain the extent and distribution of the supporting habitats for razorbill within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes. • Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.	Razorbill
Outer Firth of Forth and St Andrews Bay Complex SPA	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Herring gull Guillemot Razorbill Kittiwake Puffin Gannet Red-throated diver Slavonian grebe Eider Shag Long-tailed duck Common scoter Velvet scoter Goldeneye Red-breasted merganser
	2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2ai The populations of the qualifying features are viable components of the	• Ensure the breeding qualifying feature have the ability to recover at the relevant SPA breeding colonies. • Ensure the breeding qualifying feature within Outer Firth of Forth and St Andrews Bay Complex SPA are not at	Kittiwake Herring gull Shag

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	Outer Firth of Forth and St Andrews Bay Complex SPA	significant risk from injury or mortality during the breeding and non-breeding seasons. • Ensure the breeding qualifying feature can move safely between the site and important areas of functionally linked land outwith the site.	
	2aiii. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	• Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and nonbreeding seasons • Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.	Guillemot Puffin Gannet Razorbill
	2aiii. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	• Maintain the population of non-breeding the qualifying species at a stable or increasing trend relative to the site reference population.	Red-throated diver Slavonian grebe Long-tailed duck Common scoter Velvet scoter Goldeneye
	2aiv. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	• Maintain the population of non-breeding the qualifying species at a stable or increasing trend relative to the site reference population. • Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.	Eider Red-breasted merganser

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.	Herring gull Guillemot Kittiwake Razorbill Puffin Red-throated diver Slavonian grebe Eider European shag Long-tailed duck Common Scoter Velvet scoter Goldeneye Red-breasted merganser
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	• Maintain the extent and distribution of the supporting habitats for the qualifying species within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Herring Gull Guillemot Kittiwake Razorbill Puffin Red-throated diver Slavonian grebe Eider European shag Long-tailed duck Common scoter Velvet scoter

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
			Goldeneye Red-breasted merganser
Buchan Ness to Collieston Coast SPA	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Kittiwake Guillemot
	2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	• Ensure the breeding population of kittiwake have the ability to recover to the site reference population. • Ensure kittiwakes are not at significant risk from injury or mortality. • Ensure kittiwakes can move safely between the site and important areas of functionally linked sea ouwith the site.	Kittiwake
		• Maintain the breeding population of guillemots at a stable or increasing trend relative to the current site reference population. • Ensure guillemots are not at significant risk from injury or mortality. • Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.	Guillemot
	2b. The distribution of the qualifying features is maintained throughout the	• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	Kittiwake

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	site by avoiding significant disturbance of the species.	• Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	
		• Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.	Guillemot
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA.	• Maintain the extent and distribution of the supporting habitats for herring gull within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Kittiwake
		• Maintain the extent and distribution of the supporting habitats for guillemots within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.	Guillemot

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	
Forth Islands SPA	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Gannet Kittiwake Puffin Razorbill Guillemot
	2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	• Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population. • Ensure gannet are not at significant risk from injury or mortality during the breeding season. • Ensure gannet can move safely between the site and important areas of functionally linked sea outwith the site.	Gannet
		• Maintain the breeding population of kittiwake at a stable or increasing trend relative to the site reference population. • Ensure kittiwake are not at significant risk from injury or mortality during the breeding season. • Ensure kittiwake can move safely between the site and important areas of functionally linked sea outwith the site.	Kittiwake
		• Maintain the breeding population of puffins at a stable or increasing trend relative to the site reference population. • Ensure puffins are not at significant risk from injury or mortality during the breeding season. • Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.	Puffin
		• Maintain the breeding population of razorbill at a stable or increasing trend relative to the site reference population.	Razorbill

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Ensure razorbill are not at significant risk from injury or mortality during the breeding season. • Ensure razorbill can move safely between the site and important areas of functionally linked sea outwith the site.	
		• Maintain the breeding population of guillemots at a stable or increasing trend relative to the site reference population. • Ensure guillemots are not at significant risk from injury or mortality • Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.	Guillemot
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure gannet continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to gannet and ensure individuals can move safely between these areas within the site.	Gannet
		• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	Kittiwake
		• Ensure puffin continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	Puffin

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Avoid significant disturbance to puffin and ensure individuals can move safely between these areas within the site.	
		• Ensure razorbill continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to razorbill and ensure individuals can move safely between these areas within the site.	Razorbill
		• Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.	Guillemot
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Forth Islands SPA.	• Maintain the extent and distribution of the supporting habitats for gannet within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Gannet
		• Maintain the extent and distribution of the supporting habitats for kittiwake within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.	Kittiwake

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	
		• Maintain the extent and distribution of the supporting habitats for puffin within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Puffin
		• Maintain the extent and distribution of the supporting habitats for razorbill within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Razorbill
		• Maintain the extent and distribution of the supporting habitats for guillemots within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Guillemot

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
Northumberland Marine SPA	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		Fulmar Kittiwake Puffin Razorbill
St Abb's Head to Fast Castle SPA	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Kittiwake Guillemot Razorbill
	2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	• Ensure the breeding population of kittiwake have the ability to recover to the site reference population. • Ensure kittiwakes are not at significant risk from injury or mortality. • Ensure kittiwakes can move safely between the site and important areas of functionally linked sea ouwith the site.	Kittiwake
		• Maintain the breeding population of guillemots at a stable or increasing trend relative to the site reference population. • Ensure guillemots are not at significant risk from injury or mortality. • Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.	Guillemot

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Ensure the breeding population of razorbill have the ability to recover to the site reference population. • Ensure razorbill are not at significant risk from injury or mortality. • Ensure razorbill can move safely between the site and important areas of functionally linked sea outwith the site.	Razorbill
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure kittiwakes continue to have access to and can utilise all optime habitats suitable for all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	Kittiwake
		• Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.	Guillemot
		• Ensure razorbill continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to razorbill and ensure individuals can move safely between these areas within the site.	Razorbill

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	• Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats.	Kittiwake
		• Maintain the extent and distribution of the supporting habitats for guillemot within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Guillemot
		• Maintain or enhance the extent and distribution of the supporting habitats for razorbill within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.	Razorbill
Troup, Pennan and Lion's Heads SPA	1. To ensure that the qualifying features of the Troup, Pennan and Lion's Heads SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Kittiwake Guillemot

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2. To ensure that the integrity of the Troup, Pennan and Lion's Heads SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a. The populations of the qualifying features are viable components of the Troup, Pennan and Lion's Heads SPA	• Ensure the breeding population of kittiwake have the ability to recover to the site reference population • Ensure kittiwakes are not at significant risk from injury or mortality • Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.	Kittiwake
		• Ensure the breeding population of guillemot have the ability to recover to the site reference population. • Ensure guillemots are not at significant risk from injury or mortality. • Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.	Guillemot
	2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	Kittiwake
		• Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.	Guillemot

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Troup, Pennan and Lion's Heads SPA.	• Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats.	Kittiwake
		• Maintain or enhance the extent and distribution of the supporting habitats for guillemot within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Guillemot
Farne Islands SPA	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		Kittiwake Puffin
Coquet Island SPA	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features.		Fulmar Kittiwake Puffin

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	• The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		
East Caithness Cliffs SPA	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Kittiwake Razorbill Fulmar
	2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	• Maintain the breeding population of kittiwake at a stable or increasing trend relative to the site reference population. • Ensure kittiwakes are not at significant risk from injury or mortality • Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.	Kittiwake
		• Maintain the breeding population of razorbills at a stable or increasing trend relative to the site reference population. • Ensure razorbills are not at significant risk from injury or mortality • Ensure razorbills can move safely between the site and important areas of functionally linked sea outwith the site.	Razorbill
		• Maintain the breeding population of fulmars at a stable or increasing trend relative to the site reference population. • Ensure fulmars are not at significant risk from injury or mortality	Fulmar

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the site.	
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	Kittiwake
		• Ensure razorbill continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to razorbill and ensure individuals can move safely between these areas within the site.	Razorbill
		• Ensure fulmar continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to fulmar and ensure individuals can move safely between these areas within the site.	Fulmar
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where	• Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site. • Maintain the variety and ab abundance of food resources and the condition of supporting habitats and associated processes.	Kittiwake

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	appropriate restored, at the East Caithness Cliffs SPA.	• Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	
		• Maintain or enhance the extent and distribution of the supporting habitats for razorbill within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes. • Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats or prey, should be avoided.	Razorbill
		• Maintain or enhance the extent and distribution of the supporting habitats for fulmar within the site. • Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes. • Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats or prey, should be avoided.	Fulmar
North Caithness Cliffs SPA	1. To ensure that the qualifying features of the North Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Fulmar Kittiwake Puffin
	2. To ensure that the integrity of the North Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2a The populations of the qualifying features are viable components of the North Caithness Cliffs SPA.	• Ensure the breeding population of fulmars have the ability to recover the site reference population. • Ensure fulmars are not at significant risk from injury or mortality. • Ensure puffin can move safely between the site and important areas of functionally linked sea outwith the site.	Fulmar
		• Ensure the breeding population of kittiwake have the ability to recover the site reference population. • Ensure kittiwake are not at significant risk from injury or mortality. • Ensure kittiwake can move safely between the site and important areas of functionally linked sea and freshwater outwith the site.	Kittiwake
		• Ensure the breeding population of puffin have the ability to recover the site reference population. • Ensure puffins are not at significant risk from injury or mortality. • Ensure puffin can move safely between the site and important areas of functionally linked sea outwith the site.	Puffin
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.	Fulmar

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	Kittiwake
		• Maintain or enhance the extent and distribution of the supporting habitats for puffin within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Puffin
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Caithness Cliffs SPA	• Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Fulmar
		• Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site.	Kittiwake

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	
		• Maintain or enhance the extent and distribution of the supporting habitats for puffin within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Puffin
Copinsay SPA	1. To ensure that the qualifying features of Copinsay SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Kittiwake
	2. To ensure that the integrity of Copinsay SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a. The populations of the qualifying features are viable components of the Copinsay SPA.	• Ensure the breeding population of kittiwake have the ability to recover the site reference population. • Ensure kittiwake from Copinsay SPA are not at significant risk from injury or mortality • Ensure kittiwake can move safely between the site and important areas of functionally linked sea outwith the site.	

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Copinsay SPA.	• Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained and any increase in eutrophication or water turbidity where this could reduce supporting habitats and/or prey should be avoided.	
Hoy SPA	1. To ensure that the qualifying features of Hoy SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Kittiwake Fulmar
	2. To ensure that the integrity of Hoy SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a. The populations of the qualifying features are viable components of the Hoy SPA.	• Ensure the breeding population of kittiwake have the ability to recover to the site reference population • Ensure kittiwakes are not a t significant risk from injury or mortality • Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.	Kittiwake

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Ensure the breeding population of fulmars have the ability to recover to the site reference population • Ensure fulmars are not a t significant risk from injury or mortality • Ensure fulmar can move safely between the site and important areas of functionally linked sea outwith the site.	Fulmar
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	Kittiwake
		• Ensure fulmar continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to fulmar and ensure individuals can move safely between these areas within the site.	Fulmar
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hoy SPA.	• Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Kittiwake

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Maintain or enhance the extent and distribution of the supporting habitats for fulmar within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Fulmar
Flamborough and Filey Coast SPA	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		Gannet Fulmar Kittiwake Puffin Razorbill
West Westray SPA	1. To ensure that the qualifying features of the West Westray SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Kittiwake
	2. To ensure that the integrity of the West Westray SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2a. The populations of the qualifying features are viable components of the West Westray SPA.	• Ensure the breeding population of kittiwake have the ability to recover to the site reference population. • Ensure kittiwake are not at significant risk from injury or mortality • Ensure kittiwake can move safely between the site and important areas of functionally linked sea outwith the site.	
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within these site.	
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the West Westray SPA.	• Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.	
Fair Isle SPA	1. To ensure that the qualifying features of the Fair Isle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Puffin Fulmar Gannet
	2. To ensure that the integrity of the Fair Isle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2a. The populations of the qualifying features are viable components of the Fair Isle SPA.	• Ensure the breeding population of puffin has the ability to recover to the site reference population. • Ensure puffin are not at significant risk from injury or mortality. • Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.	Puffin
		• Maintain the breeding population of fulmar at a stable or increasing trend relative to the current site reference population. • Ensure fulmars from are not at significant risk from injury or mortality. • Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the sites.	Fulmar
		• Maintain the breeding population of gannets at a stable or increasing trend relative to the current site reference population. • Ensure gannets from are not at significant risk from injury or mortality. • Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the sites.	Gannet
	2b. The distribution of the qualifying features is maintained throughout the	• Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	Puffin

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	site by avoiding significant disturbance of the species.	• Avoid significant disturbance to puffin and ensure individuals can move safely between these areas within the site.	
		• Ensure fulmar continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to fulmar and ensure individuals can move safely between these areas within the site.	Fulmar
		• Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.	Gannet
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Fair Isle SPA.	• Maintain or enhance the extent and distribution of the support habitats for puffins within the site. • Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Puffin

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Maintain or enhance the extent and distribution of the support habitats for fulmar within the site. • Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Fulmar
		• Maintain or enhance the extent and distribution of the support habitats for gannets within the site. • Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Gannet
Noss SPA	1. To ensure that the qualifying features of the Noss SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Fulmar Gannet
	2. To ensure that the integrity of the Noss SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2a. The populations of the qualifying features are viable components of the Noss SPA.	• Ensure the breeding population of fulmar has the ability to recover to the site reference population. • Ensure fulmar are not at significant risk from injury or mortality. • Ensure fulmar can move safely between the site and important areas of functionally linked sea outwith the site.	Fulmar
		• Maintain the breeding population of gannets at a stable or increasing trend relative to the current site reference population. • Ensure gannets are not at significant risk from injury or mortality. • Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.	Gannet
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure fulmar continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to fulmar and ensure individuals can move safely between these areas within the site.	Fulmar
		• Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site. • Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.	Gannet

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Noss SPA.	• Maintain or enhance the extent and distribution of the support habitats for fulmar within the site. • Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Fulmar
		• Maintain or enhance the extent and distribution of the support habitats for gannets within the site. • Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Gannet
Foula SPA	1. To ensure that the qualifying features of the Foula SPA and the Seas off Foula SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Puffin Fulmar
	2. To ensure that the integrity of the Foula SPA and the Seas off Foula SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2a. The populations of the qualifying features are viable components of the Foula SPA and Seas off Foula SPA.	• Ensure the breeding population of puffin has the ability to recover to the site reference population. • Ensure puffin are not at significant risk from injury or mortality. • Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.	Puffin
		• Ensure the breeding population of fulmar has the ability to recover to the site reference population. • Ensure fulmar are not at significant risk from injury or mortality. • Ensure fulmar can move safely between the site and important areas of functionally linked sea outwith the site.	Fulmar
	2b. The distributions of the qualifying features throughout the Foula SPA and Seas off Foula SPA are maintained by avoiding significant disturbance of the species.	• Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites. • Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the sites.	Puffin
		• Ensure fulmar continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites. • Avoid significant disturbance to fulmar and ensure individuals can move safely between these areas within the sites.	Fulmar

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2c. The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained, or where appropriate restored, at the Foula SPA and Seas off Foula SPA.	• Maintain or enhance the extent and distribution of the supporting habitats for puffins within the sites. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover at Foula and Seas of Foula SPAS. • Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.	Puffin
		• Maintain or enhance the extent and distribution of the supporting habitats for fulmar within the sites. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover at Foula and Seas of Foula SPAS. • Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.	Fulmar
Fetlar SPA	1. To ensure that the qualifying features of the Fetlar SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Fulmar
	2. To ensure that the integrity of the Fetlar SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2a. The populations of the qualifying features are viable components of the Fetlar SPA.	• Ensure the breeding population of fulmar has the ability to recover to the site reference population. • Ensure fulmar are not at significant risk from injury or mortality. • Ensure fulmar can move safely between the site and important areas of functionally linked sea outwith the site.	
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure fulmar continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites. • Avoid significant disturbance to fulmar and ensure individuals can move safely between these areas within the sites.	
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Fetlar SPA.	• Maintain or enhance the extent and distribution of the support habitats for fulmar within the site. • Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	
Hermaness, Saxa Vord and Valla Field SPA	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Fulmar Gannet Puffin
	2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2a. The populations of the qualifying features are viable components of the Hermaness, Saxa Vord and Valla Field SPA.	• Ensure the breeding population of fulmar has the ability to recover to the site reference population. • Ensure fulmar are not at significant risk from injury or mortality. • Ensure fulmar can move safely between the site and important areas of functionally linked sea outwith the site.	Fulmar
		• Maintain the breeding population of gannet at a stable or increasing trend relative to the current site reference population. • Ensure gannets are not at significant risk from injury or mortality. • Ensure fulmar can move safely between the site and important areas of functionally linked sea outwith the site.	Gannet
		• Ensure the breeding population of puff has the ability to recover to the site reference population. • Ensure puffin are not at significant risk from injury or mortality. • Ensure puffin can move safely between the site and important areas of functionally linked sea outwith the site.	Puffin
	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	• Ensure fulmar continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites. • Avoid significant disturbance to fulmar and ensure individuals can move safely between these areas within the sites.	Fulmar

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites. • Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the sites.	Gannet
		• Ensure puffin continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites. • Avoid significant disturbance to puffin and ensure individuals can move safely between these areas within the sites.	Puffin
	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Hermaness, Saxa Vord and Valla Field SPA .	• Maintain or enhance the extent and distribution of the support habitats for fulmar within the site. • Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.	Fulmar
		• Maintain or enhance the extent and distribution of the support habitats for fulmar within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Gannet

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
		• Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	
		• Maintain or enhance the extent and distribution of the support habitats for fulmar within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover. • Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Puffin
St Kilda SPA	1. To ensure that the qualifying features of the St Kilda SPA and the Seas off St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		Gannet
	2. To ensure that the integrity of the St Kilda SPA and the Seas off St Kilda SPA are restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		
	2a. The populations of qualifying features are viable components of the relevant SPAs.	• Maintain the breeding population of gannet at a stable or increasing trend relative to the current site reference population. • Ensure gannets are not at significant risk from injury or mortality. • Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the sites.	Gannet

Special Protection Area	Conservation objectives	Site specific advice	To which qualifying features for which the potential for LSE[2] could not be ruled out is the objective applicable to?
	2b. The distributions of the qualifying features throughout the St Kilda SPA and the Seas off St Kilda SPA are maintained by avoiding significant disturbance of the species.	• Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site(s). • Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site(s).	Gannet
	2c. The supporting habitats and processes relevant to qualifying features and their prey/food 23 resources are maintained, or where appropriate restored, at St Kilda SPA and/or Seas off St Kilda SPA.	• Maintain or enhance the extent and distribution of the support habitats for gannet within the site. • Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover at St Kilda SPA and Seas off St Kilda SPA. • Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	Gannet

5.3.3 Highly Pathogenic Avian Influenza (HPAI)

5.3.3.1 The current H5N1 strain of Highly Pathogenic Avian Influenza (HPAI) was first recorded in the UK in summer 2021 (Falchieri *et al*., 2022). Although existing systematic reviews indicate that diseases are seldom a key factor leading to the extinction of vertebrates, diseases can cause population crashes, leading to measurable declines in populations (Young and VanderWerf, 2023). Thousands of seabird mortalities attributed to HPAI were reported across the UK in 2022, with minimum losses of almost 20,000 individuals in Scotland alone (NatureScot, 2023i), and by the end of 2022, 17 of the 25 UK breeding seabird species had tested positive for HPAI (Tremlett *et al*., 2024a; Tremlett *et al*., 2024b). Since 2022, seabird populations have been largely unaffected by HPAI, and although a small number of cases continue to be reported, the number of mortalities is negligible compared to 2022.

5.3.3.2 In response to the outbreak of HPAI, the RSPB established the HPAI Seabird Surveys Project (Tremlett *et al*., 2024a,b). This involved a mixture of existing planned surveys, additional volunteer-led surveys and RSPB-led surveys of a number of SPA colonies for 14 priority seabird species, and was undertaken between May and July 2023. The survey method followed standard methods outlined in the Seabird Monitoring Handbook (Walsh *et al*. 1995), enabling comparisons in population changes with the Seabirds Count estimates (Burnell *et al*., 2023). These surveys were not intended to fully update the Seabirds Count data (for example, there were gaps in coverage of some sites, some counts lacked key information such as survey time, some survey counts were estimates rather than accurate counts) and therefore Seabirds Count is used to inform the assessments presented in this RIAA Part 3. However, Tremlett *et al*. (2024a,b) is a useful indicator of how certain species are faring in light of the recent HPAI outbreak.

5.3.3.3 Tremlett *et al*. (2024a,b) showed large declines in gannet of 25% across eight SPAs when compared against the Burnell *et al*. (2023) pre-HPAI baseline, whereas kittiwake increased by 10% across 21 SPAs and guillemot declined by 6% across 21 SPAs. Tremlett *et al*. (2024a,b) concludes that changes in species such as guillemot may be partially due to other factors as they were already in decline, whereas the decline in gannet is almost certainly attributable to HPAI due to the species showing recent population increases. As set out in Volume 3, Appendix 11.1: Offshore Ornithology Baseline Characterisation Report, of the EIA Report, the baseline DAS data was collected between June 2021 and September 2023 and therefore overlaps with the HPAI outbreak.

5.3.3.4 The impact of the short, medium and long-term effects of the 2022 HPAI outbreak on seabird colony abundance and vital rates (productivity and survival) on UK breeding colonies is unclear. It is also unclear yet how the distribution and abundance of seabirds at sea was affected during the 2022 summer outbreak. The disease has affected 61 bird species, including species such as gannet, razorbill, guillemot, puffin, Manx shearwater, fulmar, and small and large gull species (Pearce-Higgins *et al*., 2023). The impact has particularly affected gannet and great skua (Pearce-Higgins *et al*., 2023), with the United Kingdom supporting over 50% of the global gannet population and 60% of the global great skua population (JNCC, 2021).

5.3.3.5 It is acknowledged that, in the short term at least, HPAI is likely to have an effect on changes in seabird populations. However, it is considered that the most appropriate information to use in the assessments presented in this RIAA Part 3 is the baseline survey data, and the Burnell *et al*. (2023) population count and population change data.

5.4 Assessment of the adverse effects of Morven South alone

5.4.1 Direct temporary habitat loss/disturbance

5.4.1.1 The impact of direct habitat loss/disturbance has been assessed qualitatively. Project activities that may result in disturbance are expected to be intermittent and spatially limited

at any given time, and therefore a qualitative assessment is considered to be proportional to the magnitude of the anticipated impacts.

5.4.1.2 The LSE[2] assessment during the HRA screening process identified that during the construction, operations and maintenance and decommissioning phases, the potential for LSE[2] could not be ruled out for direct temporary habitat loss/disturbance. This relates to the following site(s) and relevant offshore ornithological features shown in Table 5.10.

Table 5.10: European sites and associated qualifying features for which Likely Significant Effects[2] in relation to direct temporary habitat loss/disturbance impacts associated with Morven South could not be ruled out

European site	Distance to Morven South boundary (km)[3]	Feature
Outer Firth of Forth and St Andrew's Complex SPA	66	Red-throated diver
		Slavonian grebe
		Eider
		Shag
		Long-tailed duck
		Common scoter
		Velvet scoter
		Goldeneye
		Red-breasted merganser
		Non-breeding waterfowl assemblage
		Guillemot
		Razorbill
		Puffin
		Breeding seabird assemblage
Fowlsheugh SPA	84	Guillemot
		Razorbill
		Breeding seabird assemblage
Northumberland Marine SPA	93	Puffin
		Razorbill
		Breeding seabird assemblage

[3] Measured from the edge of Morven South to the edge of the SPA

European site	Distance to Morven South boundary (km)[3]	Feature
Farne Islands SPA	103	Puffin
		Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	103	Razorbill
		Breeding seabird assemblage
Forth Islands SPA	106	Razorbill
		Puffin
		Breeding seabird assemblage
Coquet Island SPA	132	Puffin
		Breeding seabird assemblage
East Caithness Cliffs SPA	234	Razorbill (non-breeding seasons only)
		Breeding seabird assemblage
Flamborough and Filey Coast SPA	243	Razorbill (non-breeding seasons only)
		Puffin
		Breeding seabird assemblage
North Caithness Cliffs SPA	218	Puffin
		Breeding seabird assemblage
Fair Isle	318	Puffin (non-breeding seasons only)
		Breeding seabird assemblage
Foula SPA	389	Puffin (non-breeding seasons only)
		Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	425	Puffin (non-breeding seasons only)
		Breeding seabird assemblage

5.4.1.3 The MDS and designed-in measures considered for the assessment of direct temporary habitat loss/disturbance are shown in Table 5.11 and Table 5.12, respectively.

Table 5.11: Maximum Design Scenario considered for the assessment of potential impacts to offshore ornithological features due to direct temporary habitat loss/disturbance during all project phases

Project phase	MDS	Justification
Construction	Installation of wind turbine foundations, Offshore Substation Platforms (OSPs) foundations, inter-array and interconnector cables in the Morven South Boundary of up to 347.7km^2. <u>Installation of turbines</u> Up to 62,596,300m^2 of subtidal habitat loss/disturbance in total across Morven North. Maximum duration of the offshore construction phase is up to five years. • Jack-up events: up to 1,939,200m^2 of disturbance from the use of jack-up vessels during foundation installation, with up to three jack-up events at each of 95 wind turbines and three jack-up events at each of the five Offshore Substation Platforms (OSPs) – four HVAC OSPs and one bridge-linked HVDC OSP. • Cable installation (including sandwave clearance and pre-lay preparation including boulder and debris clearance): up to 13,680,000m^2 of disturbance comprising: – Inter-array cables sandwave clearance: up to 1,260,000m^2 disturbance from installation of up to 420km of inter array cables (assumes 15% requires sandwave clearance with a 20m width of disturbance). – Inter-array cables boulder clearance: up to 7,140,000m^2 disturbance from installation of up to 420km of inter-array cables (assumes 85% requires boulder clearance with a 20m width of disturbance). – Inter-connector cables sandwave clearance: up to 792,000,000m^2 disturbance from installation of up to 264km of inter-connector cables (assumes 15% requires sandwave clearance with a 20m width of disturbance). – Inter-connector cables boulder clearance: up to 4,488,000m^2 disturbance from installation of up to 264km	Represents the maximum density of wind turbines and structures across the maximum Morven South Boundary that would cause greatest extent of disturbance to birds or the greatest duration of impact. Represents the maximum underwater sound impacts from impact piling for each of the relevant infrastructure foundation options. Represents the maximum number of vessel and helicopter movements that would cause greatest visual and noise disturbance and displacement to birds from Morven South

Project phase	MDS	Justification
	of inter-connector cables (assumes 85% requires boulder clearance with a 20m width of disturbance). • Sandwave clearance material deposition: Up to 46,239,000m^2 of habitat disturbance associated with the deposition of sandwave clearance material comprising: – 26,539,800m^2 from deposition of 13,269,900m^3 of sandwave clearance material associated with seabed preparation for wind turbine and OSP foundations. – 19,699,200m^2 from deposition of 9,849,600m^3 of sandwave clearance material associated with seabed preparation for inter-array and inter-connector cables. • Anchor placements: up to 684,000m^2 of habitat disturbance from one 500m^2 anchor sets placements (5 anchors per set) every 500m per inter-array/inter-connector cable link during installation. • Cable removal: Up to 100m^2 from the removal of 5m of disused cables. • UXO removal: clearance of up to 15 UXOs within Morven South ranging from 25kg up to 554kg with 132kg the most likely (common) maximum. Piling Single-vessel piling at 101 foundations comprising: • 95 wind turbines: – 3.7m diameter pin piles per foundation = 380 piles; – Maximum hammer energy of 4,000kJ; – Maximum duration of 9h piling per pile, with a minimum of 2 piles per day; – Maximum of 190 days of piling. • Four HVAC collector OSPs:	

Project phase	MDS	Justification
	– 4.5m diameter pin piles (modelled as 5.3m) per foundation = 96 piles; – Maximum hammer energy of 4,000kJ; – Maximum duration of 9h piling per pile, with a minimum of 2 piles per day; – Maximum of 48 days of piling. • One bridge-linked (= two foundations) HVDC converter OSP: Two six-legged jacket foundation; – 24 x 5m (modelled as 5.3m) diameter pin piles per foundation, equals 48 piles for two bridge-linked foundations; – Maximum hammer energy of 4,000kJ; – Maximum duration of 9h piling per pin pile, with a minimum of 2 piles per day. – Maximum of 24 days of piling. Total duration of piling = 190 + 48 + 24 = 262 days Piling phased over 12 months (start Q4 2034) UXO Clearance: • Clearance of up to 15 UXOs within the site boundary; • Maximum charge weight of 554kg Net Explosive Quantity (NEQ); • Most likely charge weight of 132kg NEQ; • Maximum donor charge of 10kg (2 x 5kg); • Maximum of one detonation within 24 hours; • Total duration of UXO clearance campaign 15 days (excluding downtime for e.g. weather); • Clearance during daylight hours only. Vessel movements	

Project phase	MDS	Justification
	Up to 1,149 installation vessel movements (return trips) per year during the construction period (165 main installation and support vessels, 104 tug/anchor handlers, 81 cable lay installation and support vessels, 65 guard vessel, 85 survey vessels, 25 seabed preparation vessels, 544 CTVs and 80 scour protection installation vessels) Up to a total of 41 construction vessels on site at any one time during the construction period Up to 75 return helicopter movements per year by up to two helicopters on site at any one time during the construction period	
Operation and maintenance	Disturbance and displacement from operational activities, wind turbines and associated operations and maintenance activity, including increased vessel, helicopter and inspection drone activity: Presence of up to 95 operating wind turbines and five OSPs occupying the Morven South Boundary of up to 347.7km^2 Minimum spacing of 1,000 m between wind turbines Up to 294 operations and maintenance vessel movements (return trips) each year Up to a total of 15 operations and maintenance vessels on site at any one time during the operation and maintenance period Up to 1,660 helicopter return trips per year with up to two on site at any one time during the operation and maintenance period Operational lifetime of up to 35 years	
Decommissioning	Vessels used for a range of decommissioning activities such as removal of foundations Noise from vessels assumed to be as per vessel activity described for construction phase above	

Table 5.12: Designed-in measures considered for the assessment of potential impacts to offshore ornithological features to direct temporary habitat loss/disturbance during all project phases

Reference number	Designed-in measures	Justification	Primary or tertiary
MM-7	Development of and adherence to a Navigation Safety and Vessel Management Plan (NSPVMP)	An NSPVMP will be developed to reduce the risk introduced due to the presence of project vessels. The NSPVMP will describe the measures related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking and means of notification of Morven South activity to other sea users (e.g. via Notices to Mariners). It will confirm the types and numbers of vessels engaged in Morven South and consider vessel coordination, including indicative transit route planning. To ensure Morven South project vessels are suitably managed to minimise the likelihood of involvement in incidents and maximise the ability to assist in the event of a third-party incident. The NSPVMP will include the requirement for Morven South vessels to comply with international marine regulations as adopted by the Flag State, including the International Regulations for Preventing Collisions at Sea (COLREGs) (International Maritime Organization (IMO), 1972/77) and the International Convention for the Safety of Life at Sea (SOLAS) (IMO, 1974) through the NSPVMP. The plan will reduce disturbance of seabird species as far as practicable, by avoiding bird populations or migratory routes and allow the identification of standard routes.	Primary

Construction phase

Habitat loss/disturbance affecting guillemot, razorbill, puffin and breeding seabird assemblage qualifying features at the Morven South Boundary

5.4.1.4 Disturbance to those qualifying features of SPAs identified in Table 5.10 may occur as a result of increased vessel and helicopter activities in and around Morven South as well as other activities directly associated with the installation of turbines and supporting infrastructure. A

total of up to 1,149 vessel movements may occur during the construction period with a maximum of 42 vessels on site at any one time. In addition there may be up to 75 return helicopter movements per year with up to two helicopters on site at any one time.

5.4.1.5 Disturbance events during construction activities may disturb and displace birds for the duration of the construction period. Disturbance and temporary loss of habitat (including habitat becoming temporarily unsuitable due to disturbance) will occur intermittently throughout the construction period. The construction period is expected to take up to five years, with activities and locations varying within this time. Any impacts resulting from disturbance and displacement from construction activities are considered likely to be short-term, temporary, and reversible in nature, lasting only for the duration of construction activity, with birds expected to return to the area once construction activities have ceased.

5.4.1.6 The MDS (Table 5.11) gives the scenario that would lead to the greatest amount of temporary habitat loss and disturbance during the construction and decommissioning phases. No significant effects are expected on fish, shellfish or benthic invertebrate prey species populations as a result of construction or decommissioning activities (see Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology, of the EIA Report). Therefore, it is expected that disturbance and subsequent displacement would be the main impact pathway.

5.4.1.7 The project design includes a Navigation Safety and Vessel Management Plan NSPVMP (Volume 4, Annex 5: Outline Navigation Safety Plan and Vessel Management Plan (NSPVMP)),which will reduce disturbance of seabird species as far as practicable by avoiding aggregations of birds (see MM-7 in Volume 3, Annex 6.4: EIA Commitments Register, of the EIA Report).

5.4.1.8 The potential for LSE[2] could not be ruled out for three species that are qualifying features of the SPAs identified in Table 5.10, namely guillemot, razorbill and puffin. All three species are considered to have a moderate vulnerability to disturbance associated with vessels and helicopters (Wade *et al.,* 2016).

5.4.1.9 The mean-maximum foraging range (i.e. the average of the maximum foraging range lengths recorded during studies incorporated into the analysis) of guillemot is 55.5km when excluding data from Fair Isle where the foraging range of guillemot was unusually high as a result of reduced prey availability during the study year (Woodward *et al.,* 2019). If this foraging range is applied there would be no connectivity between the Morven South site and the Fowlsheugh SPA for which the potential for LSE[2] could not be ruled out . The screening exercise in Morven Site HRA Screening Report was undertaken applying the mean-maximum foraging range plus one standard deviation, giving a foraging range for guillemot of 95.2km. The use of this foraging range therefore identifies connectivity between Morven South and the Fowlsheugh SPA. However, it should be noted that only part of the Morven South array area is within foraging range with Morven South lying between 83.7 and 115.8km from Fowlsheugh SPA. Tracking of guillemot from the Fowlsheugh SPA during the breeding season showed no overlap between birds from the Fowlsheugh SPA and Morven South (Wakefield *et al.,* 2017; Birdlife International, 2023) suggesting that the magnitude of any impacts on guillemot from this SPA from Morven South will be negligible in the breeding season.

5.4.1.10 The mean-maximum foraging range (i.e. the average of the maximum foraging range lengths recorded during studies incorporated into the analysis) of razorbill is 73.8km when excluding data from Fair Isle where the foraging range of razorbill was unusually high as a result of reduced prey availability during the study year (Woodward *et al.,* 2019). If this foraging range is applied there would be no connectivity between the Morven South Boundary and any SPA and associated qualifying feature combination. The screening exercise in the Morven Site HRA Screening Report was undertaken applying the mean-maximum foraging range plus one standard deviation, giving a foraging range for razorbill of 122.2km. The use of this foraging range therefore identifies connectivity between Morven South and the Fowlsheugh SPA, St Abb's Head to Fast Castle SPA and Forth Islands SPA. . Tracking of razorbill from the Forth Islands SPA has shown no connectivity with Morven South (Bogdanova *et al.,* 2020a;

Bogdanova *et al.,* 2020b; Bogdanova *et al.*, 2022) with similar results from tracking studies at the Fowlsheugh SPA (O'Donovan *et al.,* 2025). This would therefore suggest that the magnitude of any impacts on razorbill at these SPAs from Morven South will be negligible in the breeding season.

5.4.1.11 The mean-maximum foraging range (i.e. the average of the maximum foraging range lengths recorded during studies incorporated into the analysis) of puffin is 137.1km as recommended by NatureScot, when incorporating data from breeding colonies in northern Scotland (or 119.6km when these data are not included). If this foraging range is applied there is connectivity between Morven South and the Farne Islands SPA, Forth Islands SPA and Coquet Island SPA but no connectivity between Morven South and the North Caithness Cliffs SPA and Flamborough and Filey Coast SPA. The screening exercise in the Morven Site HRA Screening Report was undertaken applying the mean-maximum foraging range plus one standard deviation, giving a foraging range for puffin of 265.4km. The use of this foraging range therefore identifies connectivity between Morven South and the two aforementioned SPAs, although only with the Filey area of the Flamborough SPA. Tracking data for puffins tagged on the Isle of May shows no connectivity between the birds from the colony and Morven South (Harris *et al*., 2012). This would therefore suggest that the magnitude of any impacts on puffin at these SPAs from Morven South will be negligible in the breeding season.

5.4.1.12 The PDE indicates that there will be a maximum of 42 vessels undertaking construction activities at Morven South at one time with a clearance distance of 500m between vessels. It is not known how vessels will be distributed around the site during the construction period at any one time with different areas exposed to potential disturbance sources at different times. Potential disturbance events are likely to affect the entire sea area occupied by Morven South at some point during the construction period. If therefore, it is assumed that connectivity does exist between relevant SPAs and the three species in the breeding season, the proportion of sea area occupied by Morven South (347.7km^2) which represents the area within which potential disturbance events may occur throughout the entire construction period but not simultaneously at any one time, in relation to the available foraging area for guillemot from the Fowlsheugh SPA (15,853km^2) is only 2.19%. As it is considered that the area used by individual guillemot in the breeding season is comparable to that those same individuals use in non-breeding seasons, these values are also applicable in the post-breeding and non-breeding seasons.

5.4.1.13 For razorbill, the same proportions for the Fowlsheugh SPA (available sea area of 28,659km^2), St Abb's Head to Fast Castle SPA (available sea area of 23,135km^2) and Forth Islands SPA (available sea area of 15,811km^2) are 1.2%, 1.5% and 2.2%, respectively.

5.4.1.14 For puffin, the same proportions for the Farne Islands SPA (available sea area of 130,940km^2), Forth Islands SPA (available sea area of 124,061km^2), Coquet Island SPA (available sea area of 128,404km^2), Flamborough and Filey Coast SPA (available sea area of 126,457km^2) and North Caithness Cliffs SPA (available sea area of 173,300km^2) are 0.27%, 0.28%, 0.27%, 0.27% and 0.20%.

5.4.1.15 In non-breeding seasons, the sea area available to razorbill and puffin from relevant SPAs is much greater with birds not constrained to areas around breeding colonies due to the requirement to provision young. For those SPAs that are identified in relation to impacts in the non-breeding season only, the proportion of the sea area available to each species represented by Morven South is negligible.

5.4.1.16 The proportions calculated above assume that disturbance may occur throughout the array area however, it is important to consider that construction activities and therefore potential disturbance events will not occur simultaneously across the entirety of Morven South but, will be focussed within discrete (often small) areas within Morven South and will not extend across the full duration of the construction phase. The temporal and spatial scales are therefore much reduced than assumed in the calculation of the proportions in the previous paragraphs.

5.4.1.17 Based on the distance between Morven South and relevant SPAs for all three species, the negligible proportion of the areas potentially affected by disturbance accounting for the reduced temporal and spatial scale of these disturbance sources it is therefore considered that the impact of direct temporary habitat loss/disturbance from Morven South during the construction phase on guillemot, razorbill, puffin and breeding seabird assemblage qualifying features of relevant SPAs will be negligible.

Habitat loss/disturbance affecting qualifying features of the Outer Firth of Forth and St Andrew's Bay Complex SPA due to vessel movements

5.4.1.18 The location of ports to be used to support the construction of Morven South has not been determined prior to application. However, the use of a port or ports located within the Outer Firth of Forth and St Andrews Bay Complex SPA cannot be ruled out. Therefore, as a scenario the MDS assumes that all vessel movements required for all phases of Morven South will pass through the Outer Firth of Forth and St Andrews Bay Complex SPA. This equates to up to 1,149 return vessel trips per year during construction.

5.4.1.19 Construction will take up to five years with a total of 3,060 vessel movements (return trips) across the construction period. Across the construction period this therefore averages out to 1.6 vessel movements per day.

5.4.1.20 As shown in Figure 5.2 there are numerous existing vessel routes through the Outer Firth of Forth and St Andrews Bay Complex SPA, and the greatest concentration of these is in the coastal waters, close to the coastline (data taken from Marine Scotland, 2024). This is also where the greatest numbers of the waterbirds and seabirds occur within the SPA.

5.4.1.21 The Morven South project design includes a NSVMP which will reduce disturbance of seabird species as far as practicable by avoiding aggregations of birds (see MM-7 in Volume 3, Annex 6.4: EIA Commitments Register, of the EIA Report).

5.4.1.22 Within the Outer Firth of Forth and St. Andrew's Bay Complex SPA, those non-breeding divers, grebes and sea duck that are qualifying features, are distributed towards the coastal areas, generally close to the coastline (Figure 5.2 - Figure 5.9; data taken from Marine Scotland, 2024). The highest concentrations are recorded off the Forth of Tay, and along the coastline of the Firth of Forth, between Innerleven and Kilconquhar, and between Edinburgh and North Berwick. Some species distributions such as red-throated diver and long-tailed duck, also show higher abundance off Pettycur in the Firth of Forth. The data available (taken from Marine Scotland, 2024) whilst of a coarse resolution, would however suggest the highest concentration of birds avoid existing shipping routes to/from ports i.e. areas of high vessel movement.

5.4.1.23 Construction vessels would follow existing shipping routes to/from ports as far as practicable. It is expected that birds present in the Outer Firth of Forth and St. Andrew's Bay Complex SPA as supported by their known distribution, are to some extent habituated to such vessel movements within the existing commercial shipping routes to/from the ports.

5.4.1.24 Non-breeding guillemot are less associated with the coastline than other species, with concentrations in the mouth of the Forth Estuary and the outer Firth of Forth between North Berwick and Anstruther (Figure 5.10, data taken from Marine Scotland, 2024). As can be seen in Figure 5.1 these areas of highest concentrations overlap with areas of existing high levels of vessel movements.

5.4.1.25 The distribution of razorbill and puffin is not presented in Marine Scotland (2024). However, it is assumed to have a distribution similar to that of guillemot as a proxy species, as these auks have similar foraging requirements. Similarly, the distribution of shag is also not presented, however it is assumed that the distribution of this species will be similar to other diving species (e.g. divers, grebes and red-breasted merganser).

5.4.1.26 Due to the existing high levels of vessel traffic, and the apparent resilience to existing vessel movements (with highest concentrations occurring outwith areas of high vessel activity), then it can be assumed that the impact of disturbance and displacement resulting from an additional 3.1 return trips per day (on average), adhering to existing shipping routes during the construction phase for Morven South alone will be negligible. This is further supported by the JNCC and NatureScot (2022) Conservation and Management Advice, which states that with regards to activities with the potential to affect birds, no additional management is required for commercial shipping along established routes.

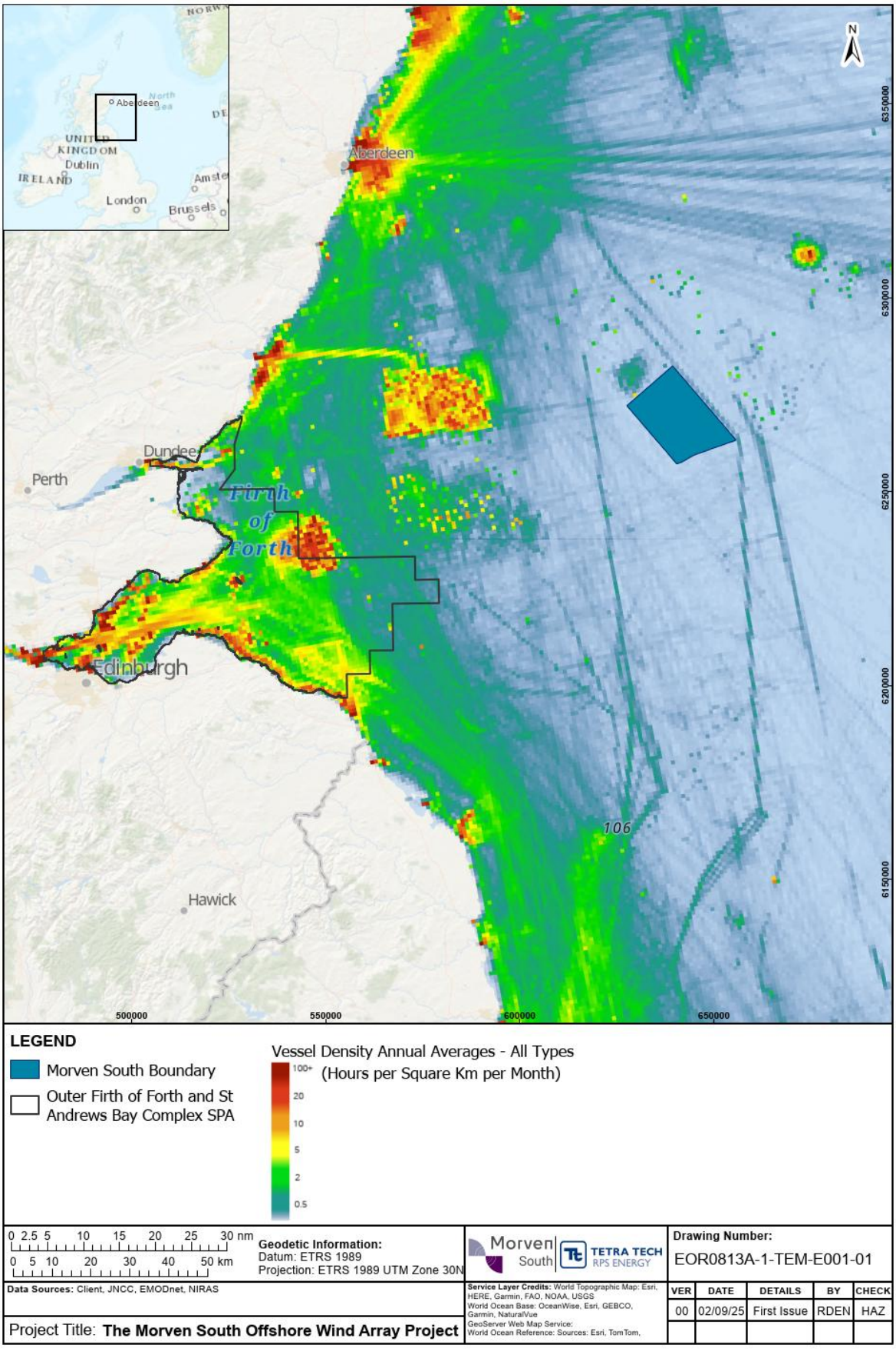


Figure 5.1: Annual averages of vessel movement throughout Outer Firth of Forth and St Andrews Bay Complex Special Protection Area

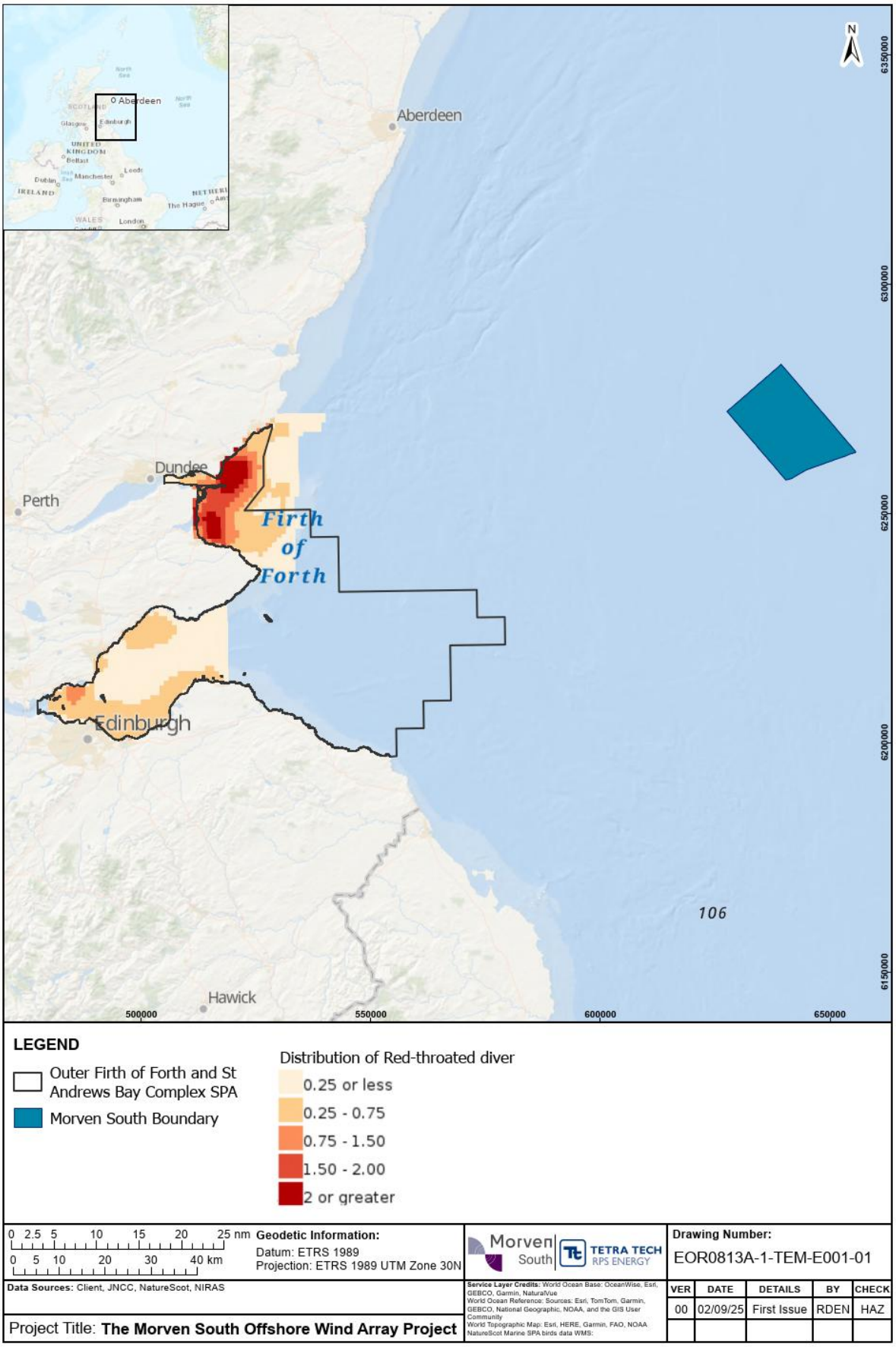


Figure 5.2: Distribution of red-throated diver in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

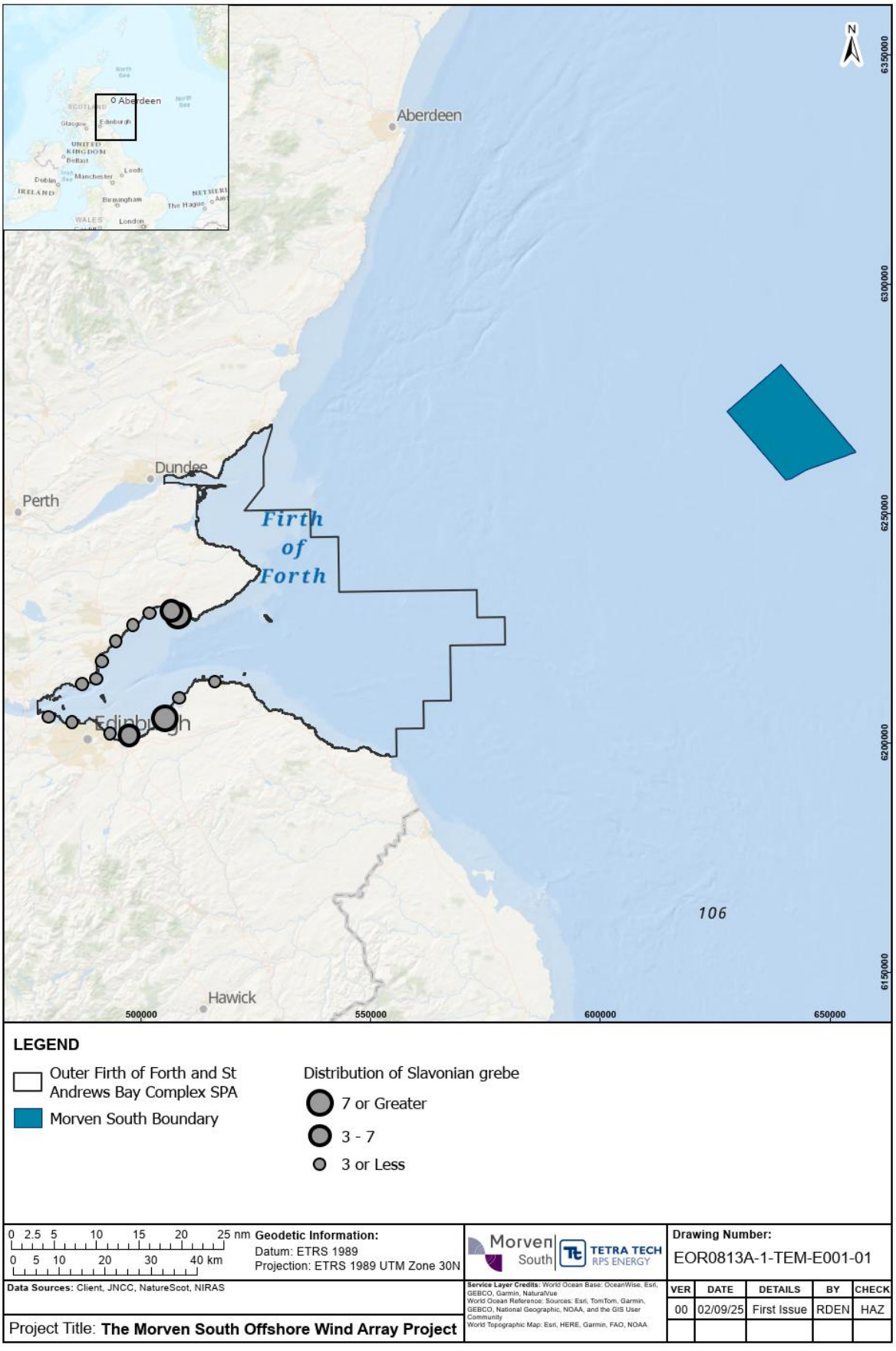


Figure 5.3: Distribution of Slavonian grebe in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

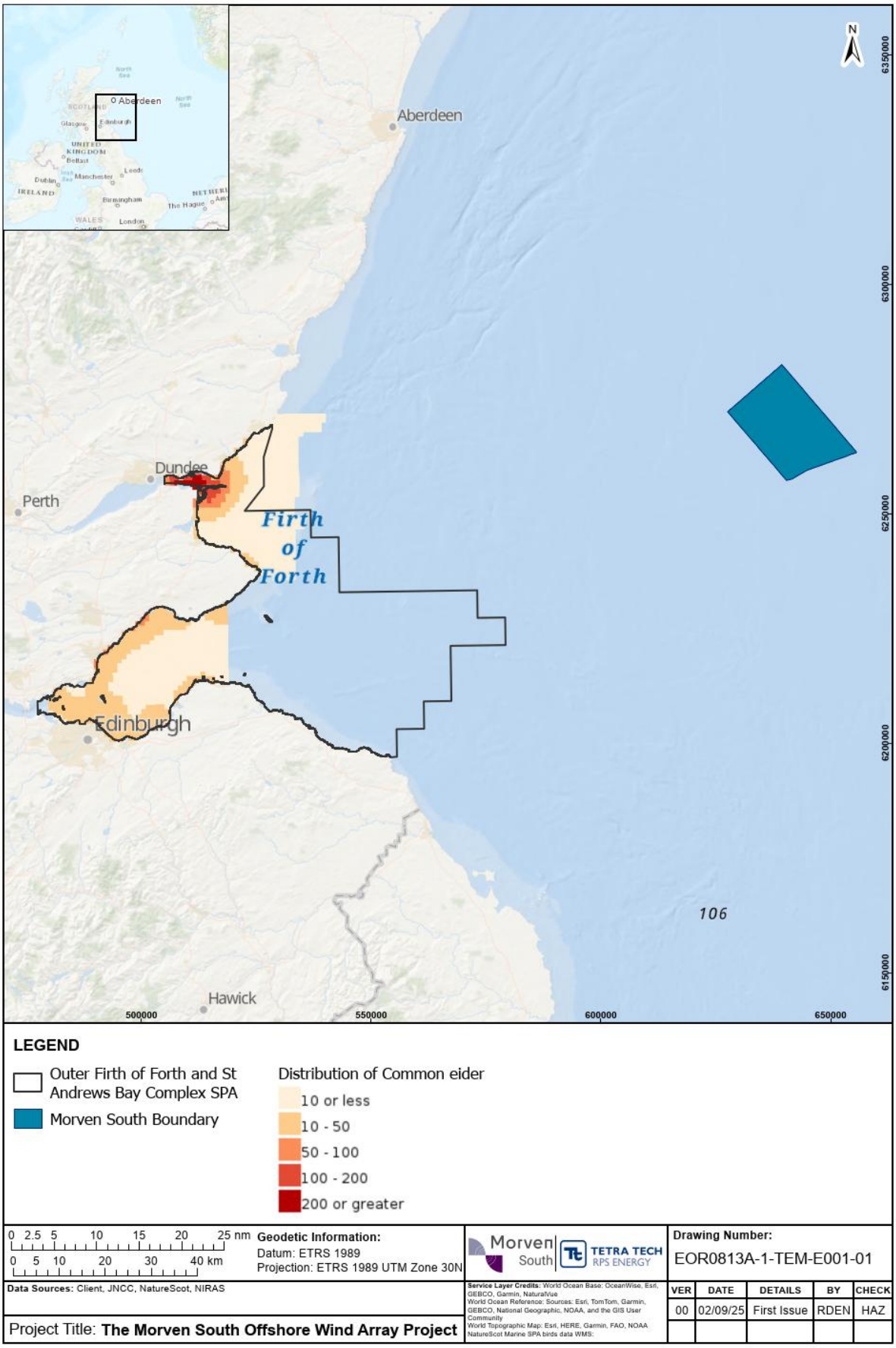


Figure 5.4: Distribution of common eider in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

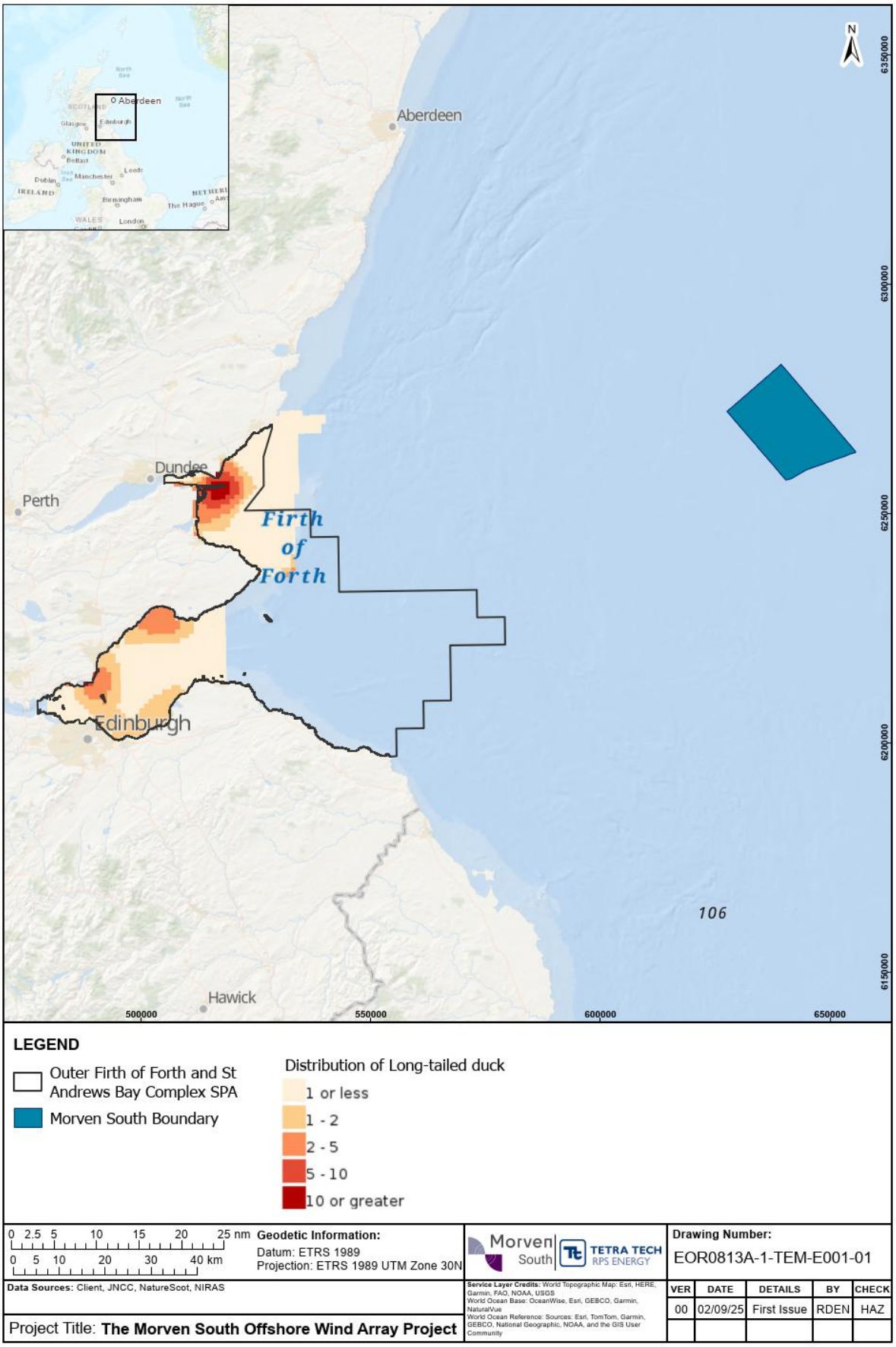


Figure 5.5: Distribution of long-tailed duck in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

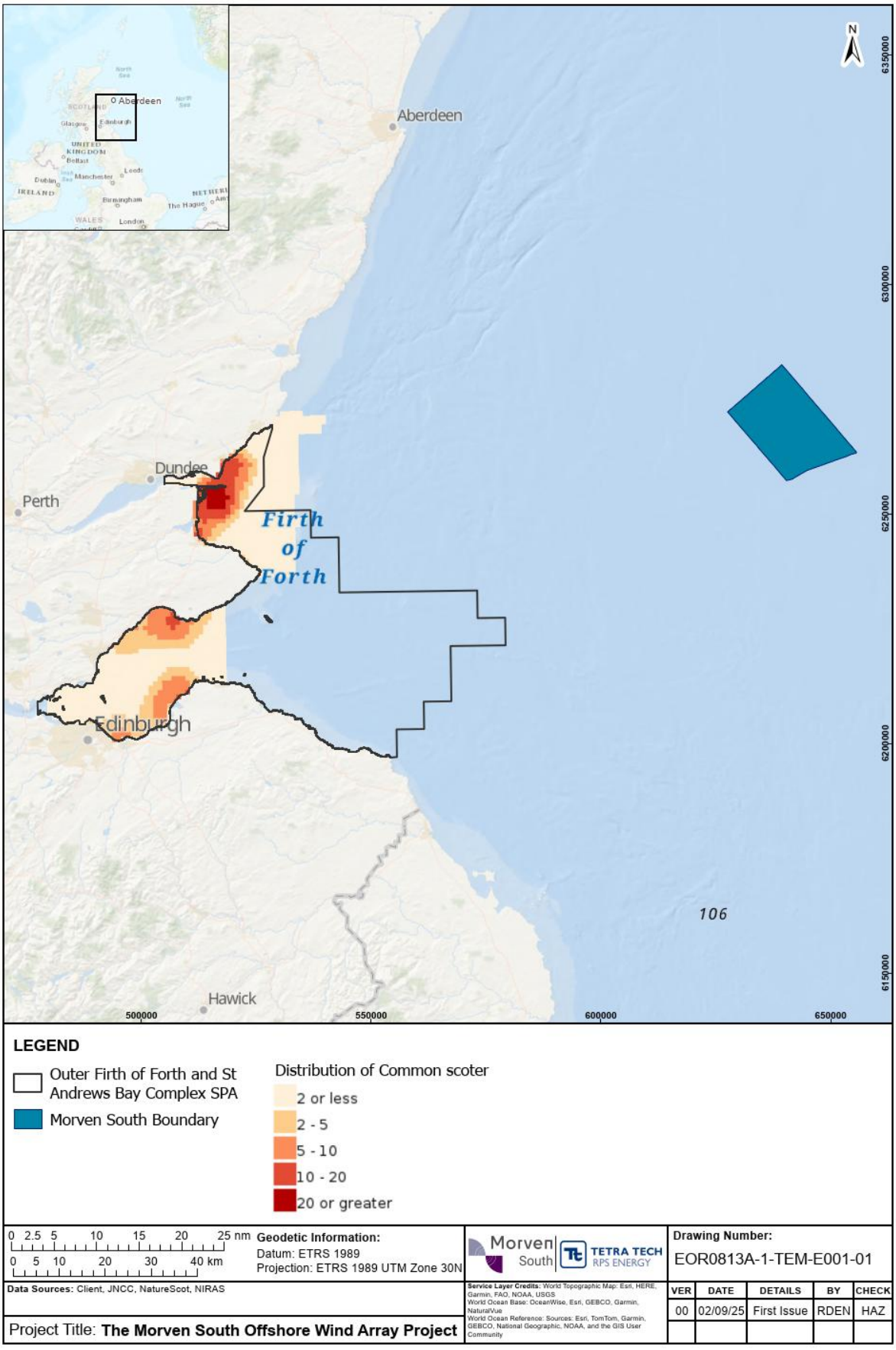


Figure 5.6: Distribution of common scoter in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

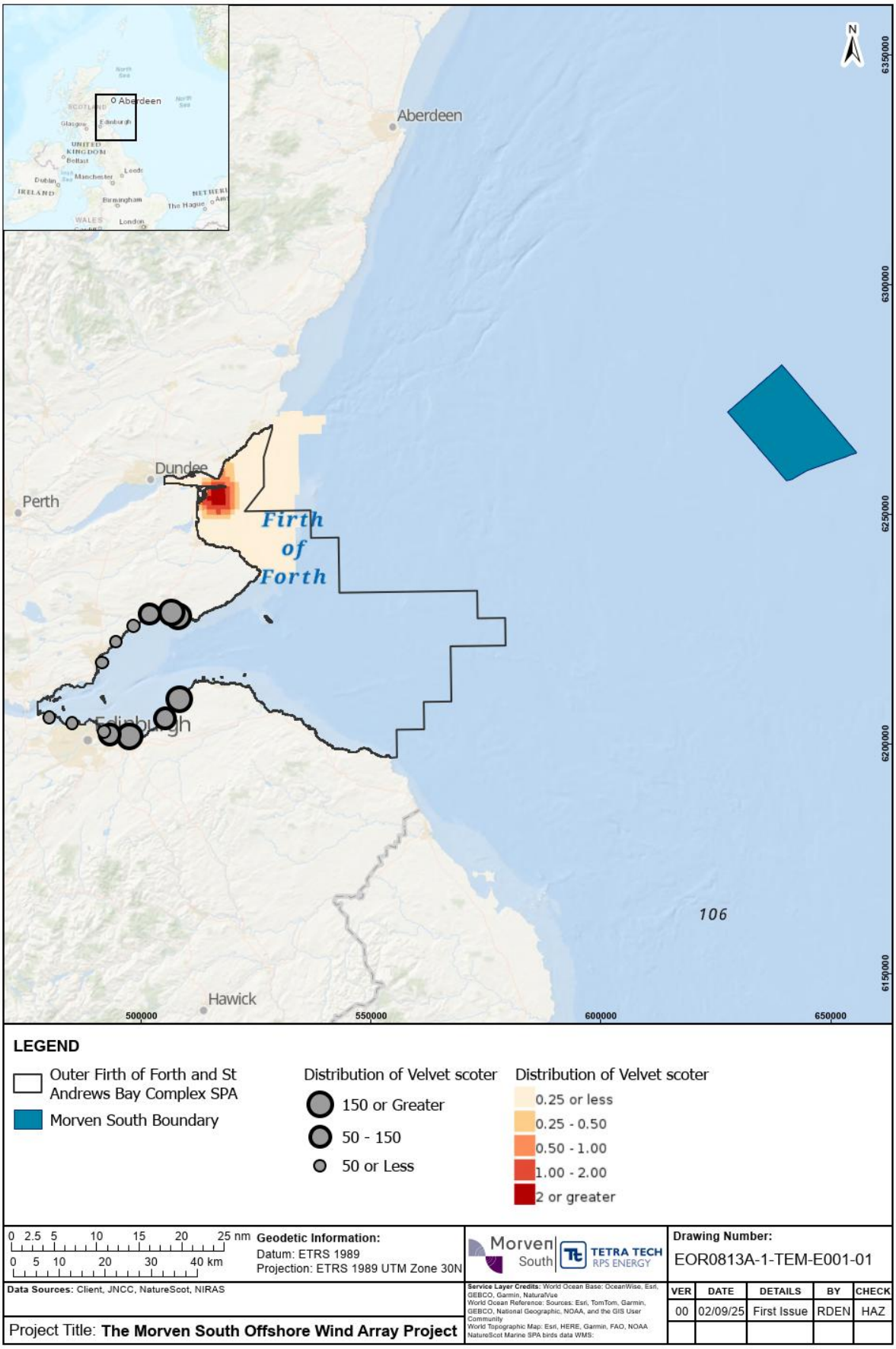


Figure 5.7: Distribution of velvet scoter in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

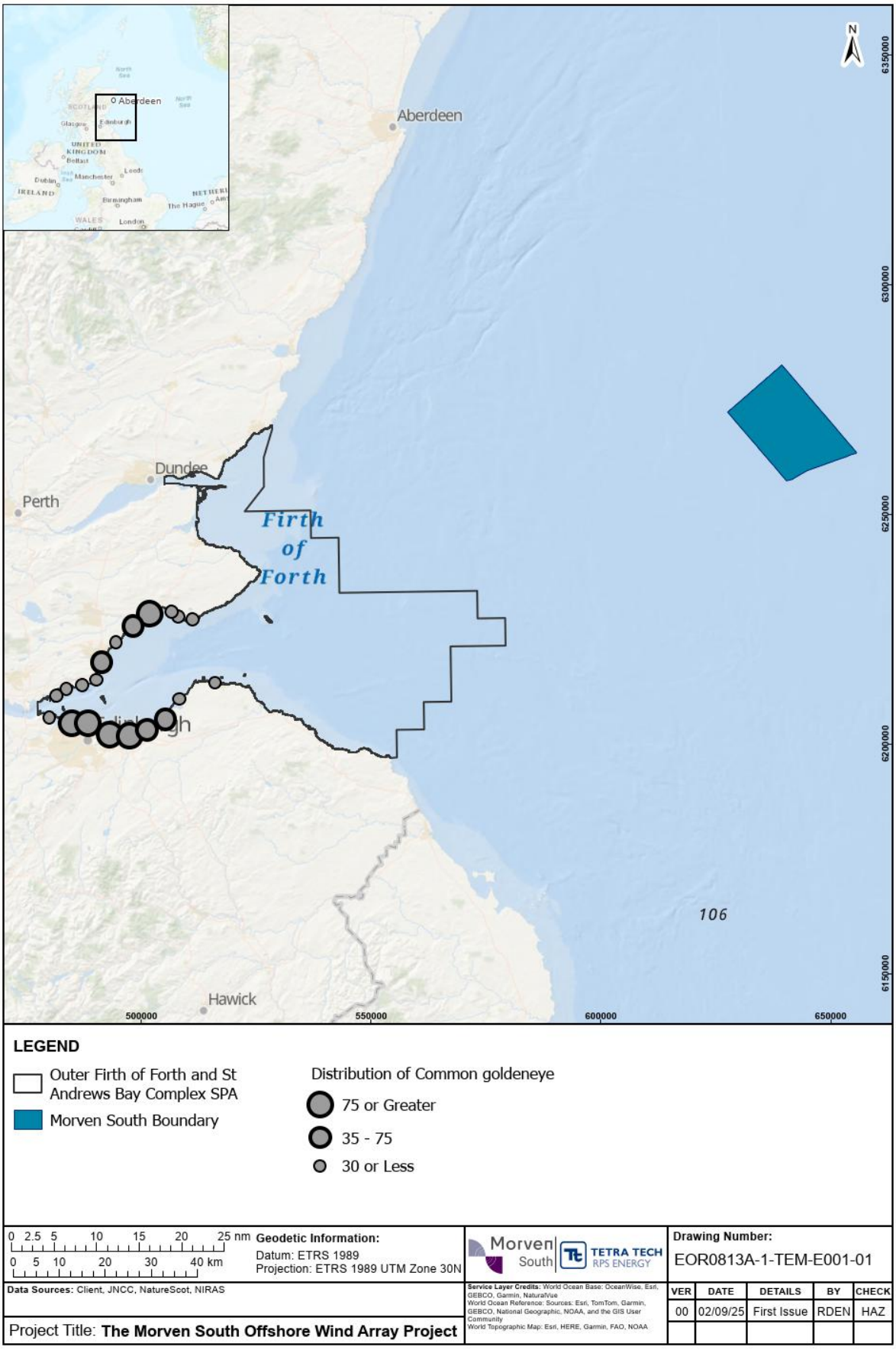


Figure 5.8: Distribution of common goldeneye in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

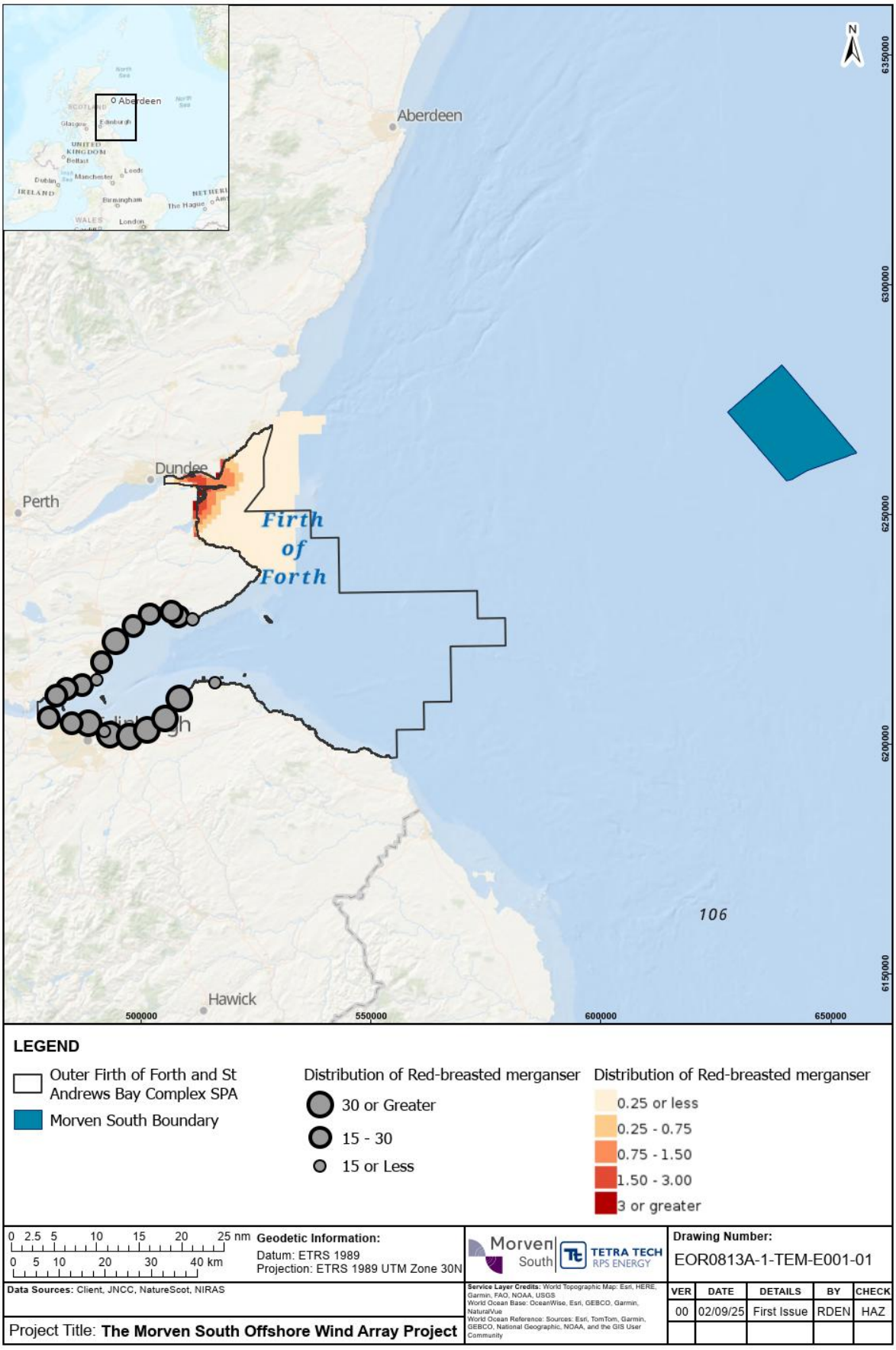


Figure 5.9: Distribution of red-breasted merganser in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

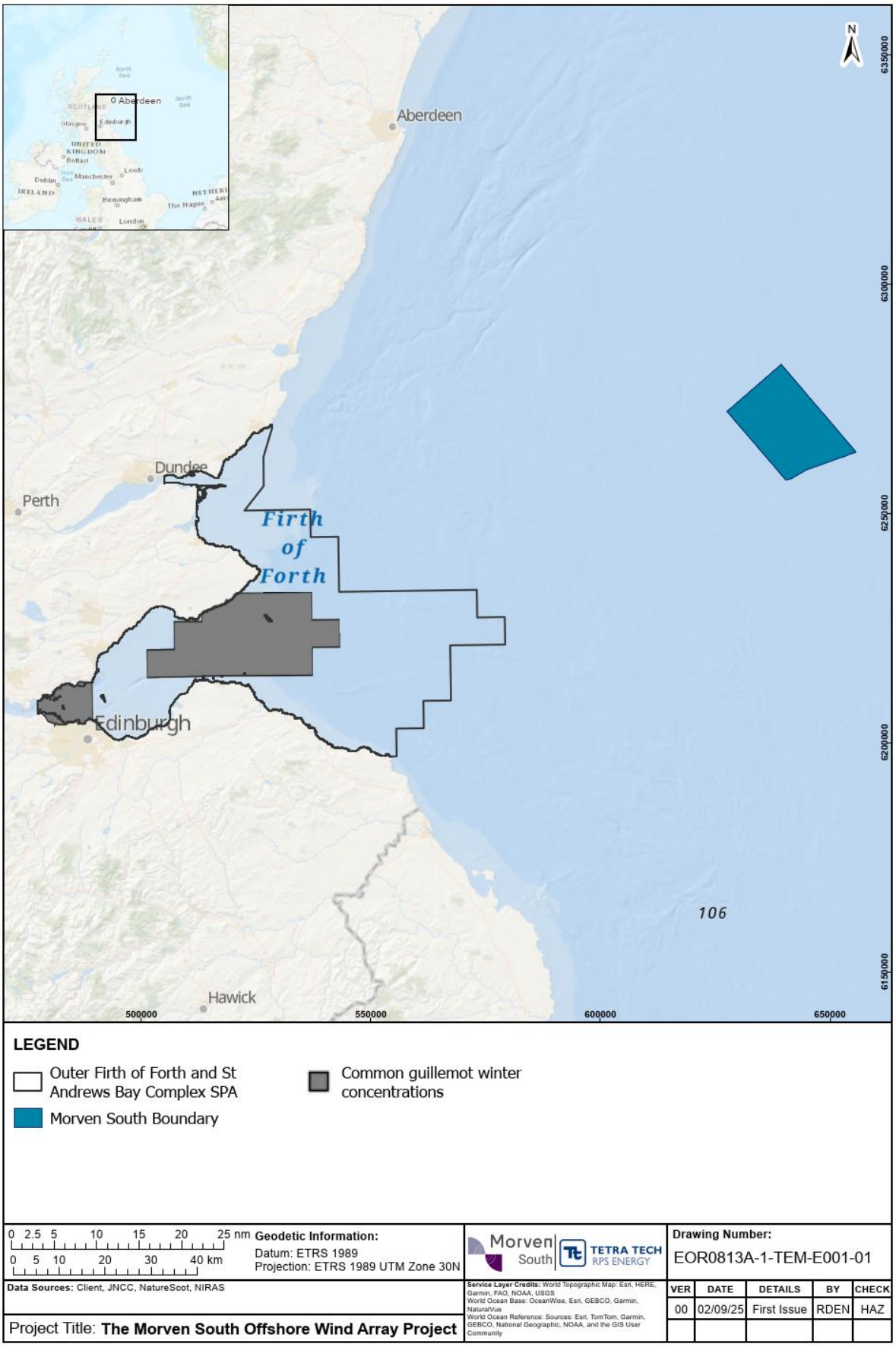


Figure 5.10: Distribution of guillemot in the Outer Firth of Forth and St Andrews Bay Complex Special Protection Area in the non-breeding season

Operation and maintenance phase

Habitat loss/disturbance affecting guillemot, razorbill, puffin and breeding seabird assemblage qualifying features at the Morven South Boundary

5.4.1.27 Disturbance to those qualifying features of SPAs identified in Table 5.10 may occur as a result of increased vessel and helicopter activities in and around Morven South. A total of up to 294 vessel movements per year may occur during the operations and maintenance phase with a maximum of 15 vessels on site at any one time. In addition there may be up to 1,660 return helicopter movements per year with up to two helicopters on site at any one time. This would on average therefore represent less than one vessel movement per day and 4.5 helicopter movements per day.

5.4.1.28 Disturbance events during operations and maintenance activities may disturb and displace birds for the duration of the operations and maintenance phase. Disturbance and temporary loss of habitat (including habitat becoming temporarily unsuitable due to disturbance) will occur intermittently throughout the operations and maintenance phase. The lifetime of Morven South is 35 years, with activities and locations varying within this time. Any impacts resulting from disturbance and displacement from operations and maintenance activities are considered likely to be short-term, temporary, and reversible in nature, lasting only for the duration of associated activity, with birds expected to return to the area once activities have ceased.

5.4.1.29 The MDS (Table 5.11) gives the scenario that would lead to the greatest amount of disturbance during the operations and maintenance phase. In addition, no significant effects are expected on fish, shellfish or benthic invertebrate populations as a result of operation and maintenance activities (see Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology, of the EIA Report). Therefore, it is expected that disturbance and subsequent displacement would be the main impact pathway.

5.4.1.30 The Morven South project design includes a NSVMP which will reduce disturbance of seabird species as far as practicable by avoiding aggregations of birds (see MM-7 in Volume 3, Annex 6.4: EIA Commitments Register, of the EIA Report).

5.4.1.31 The information presented in paragraphs 5.4.1.9 and 5.4.1.17 is also considered applicable to the assessment of disturbance in the operations and maintenance phase. In addition the spatial scale of disturbance impacts is reduced during the operations and maintenance phase and occurring within an area that will also be subject to displacement impacts associated with the presence of the wind farm (see Section 5.4.4).

5.4.1.32 Based on the distance between Morven South and relevant SPAs for all three species, the negligible proportion of the areas potentially affected by disturbance accounting for the reduced temporal and spatial scale of these disturbance sources it is therefore considered that the impact of direct temporary habitat loss/disturbance from Morven South during the operation and maintenance phase on guillemot, razorbill, puffin and breeding seabird assemblage qualifying features of relevant SPAs will be negligible.

Habitat loss/disturbance affecting qualifying features of the Outer Firth of Forth and St Andrew's Bay Complex SPA due to vessel movements

5.4.1.33 The location of ports for the operation and maintenance of Morven South has not been determined prior to application. However, the use of a port or ports that are which will be located within the Outer Firth of Forth and St Andrews Bay Complex SPA cannot be ruled out. Therefore, the MDS assumes that all vessel movements required for all phases of Morven South will pass through the Outer Firth of Forth and St Andrews Bay Complex SPA. This equates to up to up to 294 return vessel trips per year and 1,660 return helicopter trips per year during the operations and maintenance phase. This averages out at less than one vessel movement per day and 4.5 helicopter movements per day.

5.4.1.34 As shown in Figure 5.1 there are numerous existing vessel routes through the Outer Firth of Forth and St Andrews Bay Complex SPA, and the greatest concentration of these is in the coastal waters, close to the coastline. This is also where the greatest numbers of the waterbirds and seabirds occur within the SPA (as set out in paragraphs 5.4.1.18 to 5.4.1.26, and shown in Figure 5.2 to Figure 5.10).

5.4.1.35 Due to the existing high levels of vessel traffic, and the apparent habituation shown by the waterbirds and seabirds (due to highest concentrations occurring in areas of high vessel activity), it can be concluded that the impact of disturbance and displacement resulting from less than one additional return trips (on average) per day, adhering to existing shipping routes where practicable during the operation and maintenance phase for Morven South will be negligible.

Decommissioning phase

All receptors

5.4.1.36 Decommissioning activities within Morven South are equal to or less than those carried out during the construction phase within Morven South (see paragraph 5.4.1.2 to 5.4.1.26). Therefore, for the purpose of this assessment it is assumed that the level of direct temporary habitat loss/disturbance is likely to be similar, if not less, and the potential impact is deemed to be reversible in the short-term as birds are likely to return when activities have been completed.

5.4.1.37 Due to the existing high levels of vessel traffic, and the apparent resilience to existing vessel movements shown by the waterbirds and seabirds (with highest concentrations occurring outwith areas of high vessel activity), then it can be assumed that the impact of disturbance and displacement resulting from additional vessel movements, adhering to existing shipping routes where practicable during the decommissioning phase for Morven South alone will be negligible. This is further supported by the JNCC and NatureScot (2022) Conservation and Management Advice, which states that with regards to activities with the potential to affect waterbirds and seabirds, no additional management is required for commercial shipping along established routes.

5.4.1.38 Based on the distance between Morven South and relevant SPAs for all receptors, the negligible proportion of the areas potentially affected by disturbance accounting for the reduced temporal and spatial scale of these disturbance sources it is therefore considered that the impact of direct temporary habitat loss/disturbance from Morven South during the construction phase on all qualifying features of relevant SPAs will be negligible.

Conclusion

5.4.1.39 Impacts on any SPA and associated qualifying feature combination (Table 5.10) that undermine the conservation objectives of the SPAs will not occur as a result of direct temporary habitat loss/disturbance during all project phases of Morven South. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A. For breeding seabird assemblage features and non-breeding waterfowl assemblages the conclusions reached for individual qualifying features and named qualifiers are considered equally applicable to the assemblage features.

5.4.1.40 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI for any SPA and associated qualifying feature combination in relation to direct temporary habitat loss/disturbance impacts associated with Morven North during all project phase. This is applicable to all SPAs and associated features included in Table 5.13.

Table 5.13: SPAs and associated features for which there will be no Adverse Effect On Integrity in relation to direct temporary habitat loss/disturbance impacts associated with Morven South alone

European site	Feature
Outer Firth of Forth and St Andrew's Complex SPA	Red-throated diver
	Slavonian grebe
	Eider
	Shag
	Long-tailed duck
	Common scoter
	Velvet scoter
	Goldeneye
	Red-breasted merganser
	Non-breeding waterfowl assemblage
	Guillemot
	Razorbill
	Puffin
	Breeding seabird assemblage
Fowlsheugh SPA	Guillemot
	Razorbill
	Breeding seabird assemblage
Northumberland Marine SPA	Puffin
	Razorbill
	Breeding seabird assemblage
Farne Islands SPA	Puffin
	Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	Razorbill
	Breeding seabird assemblage
Forth Islands SPA	Razorbill
	Puffin
	Breeding seabird assemblage
Coquet Island SPA	Puffin
	Breeding seabird assemblage
East Caithness Cliffs SPA	Razorbill (non-breeding seasons only)

European site	Feature
	Breeding seabird assemblage
Flamborough and Filey Coast SPA	Razorbill (non-breeding seasons only)
	Puffin
	Breeding seabird assemblage
North Caithness Cliffs SPA	Puffin
	Breeding seabird assemblage
Fair Isle	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
Foula SPA	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	Puffin (non-breeding seasons only)
	Breeding seabird assemblage

5.4.2 Changes in prey availability due to temporary habitat loss/disturbance

5.4.2.1 The impact of changes in prey availability due to temporary habitat loss/disturbance has been assessed qualitatively. Project activities that may result in disturbance are expected to be intermittent and spatially limited at any given time, and therefore a qualitative assessment is considered to be proportional to the magnitude of the anticipated impacts.

5.4.2.2 The LSE[2] assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1) identified that during the construction, operations and maintenance and decommissioning phases, the potential for LSE[2] could not be ruled out for changes in prey availability due to temporary habitat loss/disturbance. This relates to the following site(s) and relevant offshore ornithological features shown in Table 5.14.

5.4.2.3 The potential for LSE[2] could not be ruled out for four species (kittiwake, guillemot, razorbill and puffin), due to these species' vulnerability to indirect effects (impacts on prey), as demonstrated by having a moderate or low vulnerability for habitat flexibility, as presented in a detailed study undertaken by Wade *et al*. (2016).

Table 5.14: European sites and associated qualifying features for which Likely Significant Effects[2] in relation to changes in prey availability due to temporary habitat loss/disturbance impacts associated with Morven South could not be ruled out

European site	Distance to Morven South Boundary (km)[4]	Feature
Outer Firth of Forth and St Andrew's Complex SPA	66	Kittiwake
		Guillemot
		Razorbill

[4] Measured from the edge of Morven South to the edge of the SPA

European site	Distance to Morven South Boundary (km)[4]	Feature
		Puffin
		Breeding seabird assemblage
Fowlsheugh SPA	84	Kittiwake
		Guillemot
		Razorbill
		Breeding seabird assemblage
Northumberland Marine SPA	93	Kittiwake
		Puffin
		Razorbill
		Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	103	Kittiwake
		Guillemot
		Breeding seabird assemblage
Farne Islands SPA	103	Kittiwake
		Puffin
		Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	103	Kittiwake
		Guillemot
		Razorbill
		Breeding seabird assemblage
Forth Islands SPA	106	Kittiwake
		Guillemot
		Razorbill
		Puffin
		Breeding seabird assemblage
Coquet Island SPA	132	Kittiwake
		Puffin
		Breeding seabird assemblage
Troup, Pennan and Lion's Heads SPA	143	Kittiwake
		Guillemot
		Breeding seabird assemblage
North Caithness Cliffs SPA	218	Kittiwake
		Puffin
		Breeding seabird assemblage
East Caithness Cliffs SPA	234	Kittiwake

European site	Distance to Morven South Boundary (km)[4]	Feature
		Razorbill (non-breeding seasons only)
		Breeding seabird assemblage
Flamborough and Filey Coast SPA	243	Kittiwake
		Razorbill (non-breeding seasons only)
		Puffin
		Breeding seabird assemblage
Copinsay SPA	271	Kittiwake
		Breeding seabird assemblage
Hoy SPA	278	Kittiwake
		Breeding seabird assemblage
Fair Isle SPA	318	Puffin (non-breeding seasons only)
		Breeding seabird assemblage
West Westray SPA	318	Kittiwake
		Breeding seabird assemblage
Foula SPA	389	Puffin (non-breeding seasons only)
		Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	425	Puffin (non-breeding seasons only)
		Breeding seabird assemblage

5.4.2.4 The MDS and designed-in measures considered for the assessment of change in prey availability due to temporary habitat loss/disturbance are shown in Table 5.15 and Table 5.16, respectively.

Table 5.15: Maximum Design Scenario considered for the assessment of potential impacts to offshore ornithological features due to change in prey availability due to temporary habitat loss/disturbance during all project phases

Project phase	MDS	Justification
Construction	As described in Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report for: • Temporary habitat loss and disturbance of habitats • Underwater sound impacting fish and shellfish receptors	As described in Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report.

Project phase	MDS	Justification
	• Increased suspended sediment concentrations (SSCs) and associated sediment deposition • Long-term habitat loss	
Operation and maintenance	As described in Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report for: • Temporary habitat loss and disturbance of habitats • Increased SSCs and associated sediment deposition • Long-term habitat loss	
Decommissioning	As described in Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report for: • Temporary habitat loss and disturbance of habitats • Underwater sound impacting fish and shellfish receptors • Increased SSCs and associated sediment deposition • Long-term habitat loss	

Table 5.16: Designed-in measures considered for the assessment of potential impacts to offshore ornithological features to direct temporary habitat loss/disturbance during all project phases

Reference number	Designed-in measures	Justification	Primary or tertiary
MM-7	Development of and adherence to a Navigation Safety and Vessel Management Plan (NSPVMP).	An NSPVMP will be developed to reduce the risk introduced due to the presence of project vessels. The NSPVMP will describe the measures related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking and means of notification of Morven South activity to other sea users (e.g. via Notices to Mariners). It will confirm the types and numbers of vessels engaged in Morven South and consider vessel coordination, including indicative transit route planning. To ensure Morven South project vessels are suitably managed to minimise the likelihood of involvement in incidents and maximise the ability to assist in the event of a third-party incident.	Primary

Reference number	Designed-in measures	Justification	Primary or tertiary
		The NSPVMP will include the requirement for Morven South vessels to comply with international marine regulations as adopted by the Flag State, including the International Regulations for Preventing Collisions at Sea (COLREGs) (International Maritime Organization (IMO), 1972/77) and the International Convention for the Safety of Life at Sea (SOLAS) (IMO, 1974) through the NSPVMP. The plan will reduce disturbance of seabird species as far as practicable, by avoiding bird populations or migratory routes and allow the identification of standard routes.	

Construction phase

5.4.2.5 Potential impacts on prey species during the construction phases of Morven South, as identified in Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report, may have indirect effects on offshore ornithology site and features (Table 5.14).

5.4.2.6 Detailed assessments of the following potential construction impacts have been undertaken in Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report for key seabird prey species (including cod, sprat, herring, mackerel and sandeel species and bivalves):

- Temporary habitat loss and disturbance of habitats;
- Underwater sound impacting fish and shellfish receptors;
- Increased SSCs and associated sediment deposition;
- Long-term habitat loss.

5.4.2.7 Herring and sandeel are sensitive to offshore wind development (including underwater sound). Both species are listed as main prey items for several seabird species (Cramp and Simmons, 1983). Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report determined Morven South to be largely unsuitable for herring and sandeel and therefore effects of habitat loss/disturbance on these species are expected to be limited within Morven South, given the abundance of similar substrate types and the extensive nature of fish spawning grounds across the wider Morven South Fish and Shellfish study area.

5.4.2.8 Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report detail the findings of the desktop studies in the Benthic Ecology study area and the Fish and Shellfish Ecology study area. Both chapters assessed the sensitivity of the receptors and the magnitudes of the impacts in order to ascertain the significance of the effects.

5.4.2.9 Details of the fish, shellfish and bivalve ecology assessment are summarised in Table 5.17. Justifications for this assessment will not be repeated in this RIAA. Evidence, modelling and justifications for these assessments are provided in Volume 2, Chapter 8: Benthic subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report.

Table 5.17: EIA significance of effects of construction impacts on fish, shellfish and bivalve ecology

Potential impact	Species	EIA significance of effect
Temporary habitat loss and disturbance of habitats	All species	Minor adverse
Underwater sound impacting fish and shellfish receptors	All species	Minor adverse
Increased SSCs and associated sediment deposition	All species	Minor adverse
Long-term habitat loss	All species	Minor adverse

5.4.2.10 Utilising the conclusions from the EIA for fish, shellfish and bivalve ecology during the construction phase it can indicate to the indirect effect on seabirds. For all fish, shellfish, and bivalve species, minor adverse significance of effect was determined for all impacts identified in Table 5.17. Due to the nature of the impact, these minor adverse effects on prey species will be extremely localised and will be of negligible magnitude when considered against the wide areas over which seabirds regularly forage (Woodward *et al*, 2019).

5.4.2.11 Due to the minor localised impacts on habitats and key prey species, and the large areas over which kittiwake, guillemot, razorbill and puffin forage, it can be concluded that there will be no AEOI on the prey resources of the features and sites being assessed. Therefore, it is concluded that there is negligible potential for a measurable indirect effect on ornithological features, resulting from changes in prey availability for any of the SPA sites and/or their qualifying ornithology features screened in for assessment.

Operations and maintenance phase

5.4.2.12 Potential impacts on prey species during the operations and maintenance phase of Morven South, as identified in Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report, may have indirect effects on offshore ornithology site and features (Table 5.14).

5.4.2.13 Detailed assessments of the following potential operations and maintenance phase impacts have been undertaken in Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report for key seabird prey species (including cod, sprat, herring, mackerel and sandeel species and bivalves) and include:

- Temporary habitat loss and disturbance of habitats;
- Increased SSCs and associated sediment deposition;
- Long-term habitat loss.

5.4.2.14 Details of the fish, shellfish and bivalve ecology assessment are summarised in Table 5.18. Justifications for this assessment will not be repeated in this RIAA. Evidence, modelling and justifications for these assessments are provided in Volume 2, Chapter 8: Benthic Subtidal Ecology and Volume 2, Chapter 9: Fish and Shellfish Ecology of the EIA Report.

Table 5.18: EIA significance of effects of construction impacts on fish, shellfish and bivalve ecology

Potential impact	Species	EIA significance of effect
Temporary habitat loss and disturbance of habitats	All species	Minor adverse

Increased SSCs and associated sediment deposition	All species	Minor adverse
Long-term habitat loss	All species	Minor adverse

5.4.2.15 Utilising the conclusions from the EIA for fish, shellfish and bivalve ecology during the operations and maintenance phase it can indicate to the indirect effect on seabirds. For all fish, shellfish, and bivalve species, minor adverse significance of effect was determined for all impacts identified in Table 5.17. Due to the nature of the impact, these minor adverse effects on prey species will be extremely localised and will be of negligible magnitude when considered against the wide areas over which seabirds regularly forage (Woodward *et al*, 2019).

5.4.2.16 Due to the minor localised impacts on habitats and key prey species, and the large areas over which kittiwake, guillemot, razorbill and puffin forage, it can be concluded that there will be no adverse effect on the prey resources of the features and sites being assessed. Therefore, it is concluded that there is negligible potential for a measurable indirect effect on ornithological features, resulting from changes in prey availability for any of the SPA sites and/or their qualifying ornithology features screened in for assessment.

Decommissioning phase

5.4.2.17 Decommissioning activities within Morven South are equal to or less than those carried out during the construction phase within Morven South. Therefore, for the purpose of this assessment it is assumed that the impact from changes in prey availability due to temporary habitat loss/disturbance is likely to be similar, if not less, and the potential impact is deemed to be reversible in the short-term as birds are likely to return when activities have been completed.

5.4.2.18 Therefore, it is concluded that there is negligible potential for a measurable indirect effect on ornithological features, resulting from changes in prey availability for any of the SPA sites and/or their qualifying ornithology features screened in for assessment.

Conclusion

5.4.2.19 Impacts on any SPA and associated qualifying feature combination (Table 5.14) that undermine the conservation objectives of the SPAs will not occur as a result of changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A. For breeding seabird assemblage features the conclusions reached for individual qualifying features and named qualifiers are considered equally applicable to the assemblage features.

5.4.2.20 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI for any SPA and associated qualifying feature combination in relation to direct temporary habitat loss/disturbance impacts associated with Morven South during all project phases. This is applicable to all SPAs and associated features included in Table 5.19.

Table 5.19: SPAs and associated features for which there will be no Adverse Effects On Integrity in relation to changes in prey availability due to temporary habitat loss/disturbance impacts associated with Morven South alone

European site	Feature
Outer Firth of Forth and St Andrew's Complex SPA	Kittiwake
	Guillemot

European site	Feature
	Razorbill
	Puffin
	Breeding seabird assemblage
Fowlsheugh SPA	Kittiwake
	Guillemot
	Razorbill
	Breeding seabird assemblage
Northumberland Marine SPA	Kittiwake
	Puffin
	Razorbill
	Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	Kittiwake
	Guillemot
	Breeding seabird assemblage
Farne Islands SPA	Kittiwake
	Puffin
	Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	Kittiwake
	Guillemot
	Razorbill
	Breeding seabird assemblage
Forth Islands SPA	Kittiwake
	Guillemot
	Razorbill
	Puffin
	Breeding seabird assemblage
Coquet Island SPA	Kittiwake
	Puffin
	Breeding seabird assemblage
Troup, Pennan and Lion’s Heads SPA	Kittiwake
	Guillemot
	Breeding seabird assemblage
North Caithness Cliffs SPA	Kittiwake
	Puffin
	Breeding seabird assemblage

European site	Feature
East Caithness Cliffs SPA	Kittiwake
	Razorbill (non-breeding seasons only)
	Breeding seabird assemblage
Flamborough and Filey Coast SPA	Kittiwake
	Razorbill (non-breeding seasons only)
	Puffin
	Breeding seabird assemblage
Copinsay SPA	Kittiwake
	Breeding seabird assemblage
Hoy SPA	Kittiwake
	Breeding seabird assemblage
Fair Isle SPA	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
West Westray SPA	Kittiwake
	Breeding seabird assemblage
Foula SPA	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	Puffin (non-breeding seasons only)
	Breeding seabird assemblage

5.4.3 Collision risk

5.4.3.1 During the operations and maintenance phase of Morven South, the turning rotors of the wind turbines may present a risk of collision for seabirds. Stationary structures, such as the tower, nacelle, or when rotors are not operating, are not expected to result in a material risk of collision. When a collision occurs between the turning rotor blade and the bird, it is assumed to result in direct mortality of the bird, which could potentially result in population level impacts.

5.4.3.2 The ability of seabirds to detect and manoeuvre around wind turbine blades is a factor that is considered when modelling and assessing the collision risk. In response to this, it is standard practice to calculate differing levels of avoidance for different species or species groups. Avoidance rates are applied to collision risk models to predict levels of impact more realistically, based on available literature and expert advice about seabird behaviour and their flight response to wind turbines.

5.4.3.3 The LSE2 assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1) identified that during the operation and maintenance phase, the potential for LSE[2] could not be ruled out for collision risk. This relates to the following site(s) and relevant offshore ornithological features shown in Table 5.20.

Table 5.20: European sites and associated qualifying features for which Likely Significant Effects[2] in relation to collision risk impacts associated with Morven South could not be ruled out

European site	Distance to Morven South Boundary (km)[5]	Feature
Outer Firth of Forth and St Andrews Bay Complex SPA	66	Kittiwake
		Herring gull (non-breeding seasons only)
		Gannet
		Breeding seabird assemblage
Fowlsheugh SPA	84	Herring gull
		Kittiwake
		Breeding seabird assemblage
Northumberland Marine SPA	94	Kittiwake
		Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	103	Kittiwake
		Breeding seabird assemblage
Farne Islands SPA	103	Kittiwake
		Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	103	Kittiwake
		Breeding seabird assemblage
Forth Islands SPA	106	Gannet
		Kittiwake
		Breeding seabird assemblage
Coquet Island SPA	133	Kittiwake
		Breeding seabird assemblage
Troup, Pennan and Lion's Heads SPA	143	Kittiwake
		Breeding seabird assemblage
East Caithness Cliffs SPA	234	Kittiwake
		Breeding seabird assemblage
Flamborough and Filey Coast SPA	243	Gannet (non-breeding seasons only)
	246	Kittiwake
		Breeding seabird assemblage
North Caithness Cliffs SPA	254	Kittiwake
		Breeding seabird assemblage
Copinsay SPA	271	Kittiwake

[5] Measured from the edge of Morven South to the edge of the SPA

European site	Distance to Morven South Boundary (km)[5]	Feature
		Breeding seabird assemblage
Hoy SPA	279	Kittiwake
		Breeding seabird assemblage
Fair Isle SPA	319	Gannet (non-breeding seasons only)
		Breeding seabird assemblage
West Westray SPA	318	Kittiwake (non-breeding seasons only)
		Breeding seabird assemblage
Noss SPA	386	Gannet (non-breeding seasons only)
		Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	428	Gannet (non-breeding seasons only)
		Breeding seabird assemblage
St Kilda SPA	473	Gannet (non-breeding seasons only)
		Breeding seabird assemblage

5.4.3.4 The MDS and designed-in measures considered for the assessment of collision risk are shown in Table 5.21 and Table 5.22, respectively.

Table 5.21: Maximum Design Scenario considered for the assessment of potential impacts to offshore ornithological features due to collision risk during the operations and maintenance phase

Project phase	MDS	Justification
Operation and maintenance	• Presence of up to 95 wind turbines within the Morven South Boundary. • Minimum lower blade tip height of 34 m above Lowest Astronomical Tide (LAT). • Maximum blade tip height of 293m above LAT. • Maximum rotor diameter of 250m. • Maximum chord width of 6.8 m. • Average rotor speed of 6.1rpm (with maximum speed of 8.0rpm). • Monthly proportion of time operational is 98% in all months • A blade pitch of 5.5 degrees • Operational lifetime of up to 35 years	The potential for collision risk is derived from wind turbines parameters including rotor diameter, chord width, rotor speed and minimum lower blade tip height. The parameters associated with the most numerous wind turbine parameters (95) represents the MDS because it will result in the greatest potential for collision risk.

Table 5.22: Designed-in measures considered for the assessment of potential impacts to offshore ornithological features to collision risk during the operations and maintenance phase

Reference number	Designed-in measures	Justification	Primary or tertiary
MM-43	A minimum lower blade tip height clearance of 34m LAT.	To reduce impact to seabirds as most seabirds fly close to the sea surface. Increasing the clearance between blade tip and sea surface reduces potential for collision. This minimum blade tip height clearance is considered appropriately conservative so as to reduce the risk of bird collisions in the specific circumstances of Morven South.	Primary

Operation and maintenance phase

5.4.3.5 Collision risk modelling was undertaken using the Stochastic Collision Risk Model (sCRM) (Caneco and Humphries, 2022) which is based on the stochLAB R package as recommended by JNCC et al. (2024b) and NatureScot (2025b). The full methodology is provided in Volume 3, Annex 11.2: Offshore Ornithology Collision Risk Modelling Report, of the EIA Report.

5.4.3.6 For all species, collision risk modelling has been carried out using the input parameters recommended by NatureScot (2025b) (Table 5.4). However, it should be noted that there is

considerable uncertainty around several of the key input parameters, including flight speed and avoidance rates. Therefore, in addition to the assessment value, a range of other input parameters has also been considered, as detailed in Volume 3, Appendix 11.2 Offshore Ornithology Collision Risk Modelling Report, of the EIA Report and Table 5.4 and presented as the Applicant's approach in this section. Further discussion on the uncertainty associated with relevant input parameters is provided in Volume 3, Appendix 11.2 Offshore Ornithology Collision Risk Modelling Report, of the EIA report.

5.4.3.7 The quantification of collision mortality provides an estimate of the total number of birds subject to mortality. For the purposes of this RIAA, it is necessary to estimate which of those birds may be associated with specific SPAs, in order to calculate the impact on the population of a qualifying feature for which a site is designated. This is done through the process of apportionment. Full details of the apportionment process and the resulting proportion of birds associated with each SPA are given in Volume 2, Annex 3.1: RIAA: Apportioning.

5.4.3.8 Collision risk estimates for each of the qualifying features identified in Table 5.20 apportioned to the relevant SPA are presented on a seasonal basis in Table 5.23 using the parameters advocated by NatureScot and in Table 5.24 using the parameters advocated by the Applicant. The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance (NatureScot, 2023h)

5.4.3.9 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2 RIAA: Population Viability Analysis.

Table 5.23: Calculation of effect from the Morven South alone in relation to collision risk based on the parameters advocated by NatureScot (B = breeding season, Post = post-breeding season, NB = non-breeding season, Pre = pre-breeding season). [1] Represents a combination of colony proportion ,adult:immature ratio and sabbatical proportion

Feature	European site	Unapportioned seasonal collision risk estimates (no. of birds)				Apportioning value				Apportioned collision risk estimate (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
Gannet (flight speed 14.9 m/s, avoidance rate 0.9929, 70% macro-avoidance applied to pre- and post-breeding seasons)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.3.16													
	Forth Islands SPA	12.7	0.2		0.2	0.43	0.24		0.31	5.5	0.0		0.1	5.6	0.004
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.05		0.06	n/a	0.0		0.0	0.0	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.01		0.02	n/a	0.0		0.0	0.0	<0.001
	Noss SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.03		0.06	n/a	0.0		0.0	0.0	<0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.09		0.14	n/a	0.0		0.0	0.0	<0.001

Feature	European site	Unapportioned seasonal collision risk estimates (no. of birds)				Apportioning value				Apportioned collision risk estimate (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	St Kilda SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.03		0.0	n/a	0.0		0.0	0.0	<0.001
Herring gull	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.3.20													
	Fowlsheugh SPA	See paragraphs 5.4.3.17 to 5.4.3.20													
Kittiwake (flight speed 13.1 m/s, avoidance rate 0.9929)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.3.23													
	Fowlsheugh SPA	6.6	1.6		2.0	0.11	0.01		0.02	0.7	0.0		0.0	0.8	0.003
	Northumberland Marine SPA	See paragraph 5.4.3.25													
	Buchan Ness to Collieston Coast SPA	6.6	1.6		2.0	0.06	0.02		0.02	0.4	0.0		0.0	0.4	0.002
	Farne Islands SPA	6.6	1.6		2.0	0.02	0.0		0.01	0.1	0.0		0.0	0.1	0.002
	St Abb`s Head to Fast Castle SPA	6.6	1.6		2.0	0.04	0.0		0.01	0.2	0.0		0.0	0.3	0.002

Feature	European site	Unapportioned seasonal collision risk estimates (no. of birds)				Apportioning value				Apportioned collision risk estimate (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Forth Islands SPA	6.6	1.6		2.0	0.03	0.0		0.01	0.2	0.0		0.0	0.2	0.002
	Coquet Island SPA	6.6	1.6		2.0	<0.01	0.0		0.0	0.0	0.0		0.0	0.0	0.002
	Troup, Pennan and Lion's Heads SPA	6.6	1.6		2.0	0.03	0.02		0.03	0.2	0.0		0.1	0.3	0.001
	East Caithness Cliffs SPA	6.6	1.6		2.0	0.02	0.06		0.08	0.2	0.1		0.2	0.4	0.001
	Flamborough and Filey Coast SPA	6.6	1.6		2.0	0.06	0.05		0.07	0.4	0.1		0.1	0.7	0.001
	North Caithness Cliffs SPA	6.6	1.6		2.0	<0.01	0.01		0.02	0.0	0.0		0.0	0.1	0.001
	Copinsay SPA	6.6	1.6		2.0	<0.01	0.0		0.0	0.0	0.0		0.0	0.0	<0.001
	Hoy SPA	6.6	1.6		2.0	0	0.0		0.0	0.0	0.0		0.0	0.0	<0.001
	West Westray SPA (non-breeding seasons only)	6.6	1.6		2.0	n/a	0.02		0.02	0.0	0.0		0.0	0.1	0.001

Table 5.24: Calculation of effect from the Morven South alone in relation to collision risk based on the parameters advocated by the Applicant (B = breeding season, Post = post-breeding season, NB = non-breeding season, Pre = pre-breeding season). [1] Represents a combination of colony proportion ,adult:immature ratio and sabbatical proportion

Feature	European site	Unapportioned seasonal collision risk estimates (no. of birds)				Apportioning value				Apportioned collision risk estimate (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
Gannet (flight speed 13.33 m/s, avoidance rate 0.9929, 70% macro-avoidance applied to all seasons)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.3.16													
	Forth Islands SPA	3.4	0.2		0.2	0.74	0.24		0.31	2.5	0.0		0.1	2.6	0.002
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.05		0.06	n/a	0.0		0.0	0.0	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.01		0.02	n/a	0.0		0.0	0.0	<0.001
	Noss SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.03		0.06	n/a	0.0		0.0	0.0	<0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.09		0.14	n/a	0.0		0.0	0.0	<0.001

Feature	European site	Unapportioned seasonal collision risk estimates (no. of birds)				Apportioning value				Apportioned collision risk estimate (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	St Kilda SPA (non-breeding seasons only)	n/a	0.2		0.2	n/a	0.03		<0.01	n/a	0.0		0.0	0.0	<0.001
Herring gull	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.3.20													
	Fowlsheugh SPA	See paragraphs 5.4.3.17 to 5.4.3.20													
Kittiwake (flight speed 8.71 m/s, avoidance rate 0.9979)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.3.23													
	Fowlsheugh SPA	1.5	0.4		0.5	0.16	0.01		0.02	0.3	0.0		0.0	0.3	0.001
	Northumberland Marine SPA	See paragraph 5.4.3.25													
	Buchan Ness to Collieston Coast SPA	1.5	0.4		0.5	0.08	0.02		0.02	0.1	0.0		0.0	0.1	0.001
	Farne Islands SPA	1.5	0.4		0.5	0.03	<0.01		0.01	0.0	0.0		0.0	0.0	<0.001
	St Abb`s Head to Fast Castle SPA	1.5	0.4		0.5	0.05	<0.01		0.01	0.1	0.0		0.0	0.1	0.001

Feature	European site	Unapportioned seasonal collision risk estimates (no. of birds)				Apportioning value				Apportioned collision risk estimate (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Forth Islands SPA	1.5	0.4		0.5	0.04	<0.01		0.01	0.1	0.0		0.0	0.1	0.001
	Coquet Island SPA	1.5	0.4		0.5	<0.01	<0.01		<0.01	0.0	0.0		0.0	0.0	0.001
	Troup, Pennan and Lion's Heads SPA	1.5	0.4		0.5	0.04	0.02		0.03	0.1	0.0		0.0	0.1	<0.001
	East Caithness Cliffs SPA	1.5	0.4		0.5	0.04	0.06		0.08	0.1	0.0		0.0	0.1	<0.001
	Flamborough and Filey Coast SPA	1.5	0.4		0.5	0.09	0.05		0.07	0.1	0.0		0.0	0.2	<0.001
	North Caithness Cliffs SPA	1.5	0.4		0.5	<0.01	0.01		0.02	0.0	0.0		0.0	0.0	<0.001
	Copinsay SPA	1.5	0.4		0.5	<0.01	<0.01		<0.01	0.0	0.0		0.0	0.0	<0.001
	Hoy SPA	1.5	0.4		0.5	0	<0.01		<0.01	0.0	0.0		0.0	0.0	<0.001
	West Westray SPA (non-breeding seasons only)	1.5	0.4		0.5	n/a	0.02		0.02	0.0	0.0		0.0	0.0	<0.001

Gannet

5.4.3.10 The potential for LSE[2] in relation to collision risk could not be ruled out for six SPAs which are designated to protect breeding populations of gannet (Table 5.20). All but one of these was identified for consideration of collision impacts in non-breeding seasons only. Collision impacts in the breeding season were considered for the Forth Islands SPA due to gannets exhibiting spatial segregation in foraging areas from individual breeding colonies (Wakefield *et al.,* 2013). In addition, the potential for LSE[2] could not be ruled out for the Outer Firth of Forth and St Andrews Bay Complex SPA which is designated to protect sea areas used by gannets from adjacent SPA breeding colonies.

5.4.3.11 For SPAs for which collision impacts were considered in non-breeding seasons only, the predicted impact represented less than a 0.02 percentage point change in the associated baseline mortality of each SPA under both NatureScot's (Table 5.23) and the Applicant's (Table 5.24) approach.

5.4.3.12 For the Forth Islands SPA for which there was connectivity with Morven South in all seasons, the impact also remained below the 0.02 percentage point threshold as defined by NatureScot for both NatureScot's (Table 5.23) and the Applicant's (Table 5.24) approach.

5.4.3.13 As mentioned in Paragraph 5.4.3.10, during the breeding period, gannets exhibit spatial segregation in foraging areas between individual breeding colonies (Wakefield *et al.,* 2013). This information was used in the Morven Site HRA Screening Report to conclude that impacts in the breeding season were exclusive to the Forth Islands SPA and discount LSE[2] for all other SPAs in the breeding season. The predicted impacts in Table 5.23 and Table 5.24 were calculated applying the recommended NatureScot (2018) apportioning approach which utilises three weighting factors (colony proportion, adult:immature proportion and sabbatical rate) to estimate the proportion of breeding adult birds from relevant colonies that may interact with a project site (see Volume 2, Annex 3.1: RIAA: Apportioning for more information). This approach estimated that, of the breeding adult gannets present at Morven South, approximately 87% would originate from the Forth Islands SPA. The remaining 13% of birds were attributed to other breeding colonies, including some that are SPAs. However, as impacts in the breeding season on these SPAs were discounted in the Morven Site HRA Screening Report based on the information in Wakefield *et al.,* (2013) it is considered that the apportioning value is zero and therefore no impact is apportioned to these SPAs in the breeding season.

5.4.3.14 The NatureScot (2018) breeding season apportioning approach utilises generic foraging range information, assuming connectivity with any SPA from which the foraging range of a given species, in this case gannet, overlaps with Morven South. The approach is not designed to take into account site-specific foraging range information such as that presented in Wakefield *et al.* (2013). Using the information from Wakefield *et al.* (2013) would suggest that the only breeding adult birds present at Morven South during the breeding season originate from the Forth Islands SPA and therefore it should be assumed that the breeding adult proportion of gannets from the Forth Islands SPA present at Morven South should be 100%. The use of the foraging range data from Wakefield *et al.* (2013) would also mean that there would be no birds from other SPA breeding colonies (e.g. the Flamborough and Filey Coast SPA) present at Morven South, consistent with the assumptions in the Morven Site HRA Screening Report.

5.4.3.15 The effect the use of the foraging range data from Wakefield *et al.* (2013) has on the breeding season apportioning values for the Forth Islands SPA in Table 5.23 and Table 5.24is presented in Table 5.25. The breeding season apportioning value consists of three factors, a colony proportion, which would, based on the information in Wakefield *et al.,* (2013) be 100% for the Forth Islands SPA, an adult:immature proportion (55.2% for the NatureScot approach and 95.9% for the Applicant's approach) and a sabbatical rate (90% for both the NatureScot and Applicant's approaches). This would then give breeding season apportioning values of 49.7% for NatureScot's approach and 85.3% for the Applicant's approach. When applying NatureScot's approach, this would in turn provide a breeding season impact of 6.3

birds/annum and an annual impact of 6.4 birds/annum. When applying the Applicant's approach this would provide a breeding season impact of 3.4 birds/annum and an annual impact of 3.5 birds/annum. These impacts would not surpass the 0.02 percentage point threshold recommended by NatureScot.

Table 5.25: Calculation of breeding season impacts for gannet at the Forth Islands SPA incorporating foraging range data from Wakefield *et al.* (2013)

Approach	Foraging range data	Colony proportion	Adult:immature proportion	Sabbatical proportion	Breeding season apportioning value
NatureScot	Generic (as incorporated into Table 5.23)	0.869	0.552	0.9	0.432
	Wakefield *et al.* (2013)	1.000	0.552	0.9	0.497
Applicant	Generic (as incorporated into Table 5.24)	0.869	0.949	0.9	0.741
	Wakefield *et al.* (2013)	1.000	0.949	0.9	0.853

5.4.3.16 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by gannets from adjacent breeding colonies. For gannet, this includes the Forth Islands SPA only. The conclusions reached for the gannet qualifying feature of the Forth Islands SPA are therefore considered applicable to the gannet qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

Herring gull

5.4.3.17 As part of the HRA Stage 1 screening exercise for Morven South, connectivity was identified between herring gull at the Fowlsheugh SPA and Morven South based on the mean-maximum foraging range (plus one standard deviation) (Woodward *et al.*, 2019).

5.4.3.18 The identification of connectivity is undertaken measuring distances between the edge of the Morven South Boundary and the edge of the relevant SPA. However, for the apportioning approach, following NatureScot guidance (NatureScot (2018) and NatureScot advice pre-application (January 2025), distances were measured between the centre of Morven South and the centre of each colony. The apportioning approach undertaken for Morven South estimated a breeding adult proportion for herring gull from the Fowlsheugh SPA of 0% and therefore no impact is attributed to this SPA.

5.4.3.19 The mean-maximum foraging range (i.e. the average of the maximum foraging range lengths recorded during studies incorporated into the analysis) of herring gull is 58.8km. If this foraging range is applied there would be no connectivity between Morven South and the Fowlsheugh SPA. The HRA Stage 1 screening exercise for Morven South was undertaken following a precautionary approach which applied the mean-maximum foraging range plus one standard deviation, giving a foraging range for herring gull of 85.6km. Morven South is located between 83.7 and 112.9km from Fowlsheugh SPA meaning that only a small proportion of the Morven South Boundary, representing approximately 1.3% of the total area, is within the mean-maximum foraging range plus one standard deviation of herring gull from the Fowlsheugh SPA.

5.4.3.20 Herring gulls were recorded in only four of the baseline aerial surveys (see Volume 3, Annex 11.1 Offshore Ornithology Baseline Characterisation Report, of the EIA Report) undertaken to support the Morven South application with birds recorded in July, September and October 2022 and September 2023. In each survey only one bird was recorded and in only October 2022 and September 2023 were these birds recorded inside the Morven South Boundary within which they would be at risk of collision. As a result, herring gull was not identified as a Valued Ornithological Receptor in Volume 3, Annex 11.1 Offshore Ornithology Baseline Characterisation Report, of the EIA Report and was therefore not considered for collision risk modelling in Volume 3, Annex 11.2 Offshore Ornithology Collision Risk Modelling Report, of EIA Report. As a result, regardless of the approach taken to apportioning, the magnitude of collision impacts on herring gull from Morven South is highly unlikely to lead to a detectable increase in the baseline mortality of the herring gull population at Fowlsheugh SPA.

Kittiwake

5.4.3.21 The potential for LSE[2] in relation to collision risk could not be ruled out for kittiwake as a qualifying feature at 13 breeding colony SPAs. Of these, all but one (West Westray SPA) require consideration in all seasons with the West Westray SPA requiring consideration in non-breeding seasons only. In addition, the potential for LSE[2] could not be ruled out for the Outer Firth of Forth and St Andrews Bay Complex SPA and Northumberland Marine SPAs which are designated to protect sea areas used by kittiwakes from adjacent SPA breeding colonies.

5.4.3.22 For all breeding colony SPAs the predicted impact represented less than a 0.02 percentage point increase in the associated baseline mortality of each SPA under both NatureScot's (Table 5.23) and the Applicant's (Table 5.24) approach.

5.4.3.23 To identify connectivity between Morven South and SPAs in the Morven Site HRA Screening Report, the Applicant applied an edge to edge measurement as advised by NatureScot (2023b). The distances used in the breeding season apportioning approach for Morven South were measured from the centre of Morven South to the centre of each SPA following the recommended approach in NatureScot (2018). As a result Morven South is located on the limit of the foraging range of kittiwake from the Hoy SPA and this results in the breeding season apportioning value for this SPA being zero. There are many kittiwake breeding colonies within foraging range of Morven South to which impacts are apportioned, and therefore even if the SPAs excluded by using the NatureScot (2018) apportioning approach had been included (by using the Morven Site HRA Screening Report edge to edge distance measurement), only a very small proportion of the impact would be attributed to those SPAs. This is illustrated by the apportioning value estimated for the Copinsay SPA which is located 287km from Morven South (as measured as part of the apportioning approach) and has a population four time greater than the Hoy SPA. The Copinsay SPA received an apportioning value of less than 0.2% and this would be even lower for Hoy SPA. It is therefore highly unlikely that the predicted impact for these SPAs would surpass the 0.02 percentage point threshold defined by NatureScot (2023h). Therefore the conclusions reached for these SPAs will not be changed if a proportion of the impact associated with Morven South in the breeding season were apportioned to the SPAs based on an edge to edge distance measurement approach as used in the Morven Site HRA Screening Report.

5.4.3.24 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by kittiwakes from adjacent breeding colonies. For kittiwake, this includes the Forth Islands SPA, the St Abb's Head to Fast Castle SPA, the Fowlsheugh SPA, the Buchan Ness to Collieston Coast SPA and the Troup, Pennan and Lion's Heads SPA. The conclusions reached for the kittiwake qualifying feature of the Forth Islands SPA are therefore considered applicable to the kittiwake qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

5.4.3.25 The Northumberland Marine SPA is designated to protect seas areas used by kittiwakes from adjacent breeding colonies. This includes the Coquet Island SPA and Farne Islands SPA (Natural England, 2025). The conclusions reached for the kittiwake qualifying feature of these

SPAs are therefore considered applicable to the kittiwake qualifying feature of the Northumberland Marine SPA.

Conclusion

5.4.3.26 The predicted increase in baseline mortality does not exceed the 0.02 percentage point threshold advised by NatureScot (2023h) for any SPA and associated qualifying feature combination using either the estimates predicted when applying NatureScot's advocated parameters (Table 5.23) or the Applicant's parameters (Table 5.24).

5.4.3.27 Impacts on the qualifying offshore ornithological features of all SPAs identified in Table 5.20 that undermine the conservation objectives of relevant SPAs will not occur as a result of collision risk during the operation and maintenance phase. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A. For breeding seabird assemblage features the conclusions reached for individual qualifying features and named qualifiers are considered equally applicable to the assemblage features.

5.4.3.28 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI for any SPA and associated qualifying feature combination in relation to collision risk associated with Morven South during the operations and maintenance phase. This is applicable to all SPAs and associated features included in Table 5.26.

Table 5.26: SPAs and associated features for which there will be no Adverse Effect On Integrity in relation to collision risk impacts associated with Morven South alone

European site	Feature
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake
	Herring gull (non-breeding seasons only)
	Gannet
	Breeding seabird assemblage
Fowlsheugh SPA	Herring gull
	Kittiwake
	Breeding seabird assemblage
Northumberland Marine SPA	Kittiwake
	Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	Kittiwake
	Breeding seabird assemblage
Farne Islands SPA	Kittiwake
	Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	Kittiwake
	Breeding seabird assemblage
Forth Islands SPA	Gannet
	Kittiwake
	Breeding seabird assemblage
Coquet Island SPA	Kittiwake
	Breeding seabird assemblage
Troup, Pennan and Lion's Heads SPA	Kittiwake

European site	Feature
	Breeding seabird assemblage
East Caithness Cliffs SPA	Kittiwake
	Breeding seabird assemblage
Flamborough and Filey Coast SPA	Gannet (non-breeding seasons only)
	Kittiwake
	Breeding seabird assemblage
North Caithness Cliffs SPA	Kittiwake
	Breeding seabird assemblage
Copinsay SPA	Kittiwake
	Breeding seabird assemblage
Hoy SPA	Kittiwake
	Breeding seabird assemblage
Fair Isle SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage
West Westray SPA	Kittiwake (non-breeding seasons only)
	Breeding seabird assemblage
Noss SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage
St Kilda SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage

5.4.4 Displacement

5.4.4.1 The operations and maintenance phase of Morven South may lead to disturbance and displacement of birds. The MDS is represented by the maximum density of wind turbines and structures across the maximum array area that would cause the greatest extent of disturbance and displacement to birds, or the greatest duration of impact. The MDS is summarised in Table 5.28.

5.4.4.2 Disturbance as the result of activities during the operations and maintenance phase of an offshore wind farm has the potential to displace seabirds from an area of sea in which the activity is occurring. In relation to offshore wind farm development, displacement is defined as a reduction in the number of seabirds occurring within or immediately adjacent to an offshore wind farm (Furness et al., 2013).

5.4.4.3 As the result of disturbance, displaced birds may move to areas already occupied by other birds and thus face higher intra- or inter-specific competition due to a higher density of individuals competing for the same resource. Alternatively, displaced birds may be forced to move into areas of lower quality (e.g. areas of lower prey availability). Such disturbance and resulting displacement could ultimately affect their demographic fitness (i.e. survival rates and breeding productivity) as well as potentially impacting on other birds in areas that displaced birds move to.

5.4.4.4 During the operations and maintenance phase, the presence of operational wind turbines has the potential to directly disturb seabirds leading to displacement from the offshore wind farm array area including an area of variable size or buffer around it (Dierschke et al., 2016). Therefore, the presence of wind turbines at Morven South has the potential to directly disturb and displace seabirds that would normally reside within and around the area of sea.

5.4.4.5 The LSE[2] assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1) identified that during the operation and maintenance phase, the potential for LSE2 could not be ruled out for displacement. This relates to the following site(s) and relevant offshore ornithological features shown in Table 5.27.

Table 5.27: European sites and associated qualifying features for which Likely Significant Effects[2] in relation to displacement associated with Morven South could not be ruled out

European site	Distance to Morven South Boundary (km)[6]	Feature
Outer Firth of Forth and St Andrews Bay Complex SPA	66	Kittiwake
		Guillemot
		Razorbill
		Puffin
		Gannet
		Breeding seabird assemblage
Fowlsheugh SPA	84	Kittiwake
		Guillemot
		Razorbill
		Breeding seabird assemblage
Northumberland Marine SPA	93	Fulmar
		Kittiwake
		Puffin
		Razorbill
		Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	103	Kittiwake
		Guillemot
		Breeding seabird assemblage
Farne Islands SPA	103	Kittiwake
		Puffin
		Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	103	Kittiwake
		Guillemot
		Razorbill

[6] Measured from the edge of Morven South to the edge of the SPA

European site	Distance to Morven South Boundary (km)[6]	Feature
		Breeding seabird assemblage
Forth Islands SPA	106	Gannet
		Kittiwake
		Guillemot
		Razorbill
		Puffin
		Breeding seabird assemblage
Coquet Island SPA	132	Fulmar
		Kittiwake
		Puffin
		Breeding seabird assemblage
Troup, Pennan and Lion's Heads SPA	143	Kittiwake
		Guillemot
		Breeding seabird assemblage
East Caithness Cliffs SPA	234	Kittiwake
		Fulmar
		Razorbill (non-breeding seasons only)
		Breeding seabird assemblage
Flamborough and Filey Coast SPA	243	Gannet (non-breeding seasons only)
		Kittiwake
		Puffin
		Fulmar
		Razorbill (non-breeding seasons)
		Breeding seabird assemblage
North Caithness Cliffs SPA	253	Fulmar
		Kittiwake
		Puffin
		Breeding seabird assemblage
Copinsay SPA	271	Kittiwake
		Breeding seabird assemblage
Hoy SPA	278	Fulmar
		Kittiwake
		Breeding seabird assemblage
Fair Isle SPA	318	Fulmar

European site	Distance to Morven South Boundary (km)[6]	Feature
		Gannet (non-breeding seasons only)
		Puffin (non-breeding seasons only)
		Breeding seabird assemblage
West Westray SPA	318	Kittiwake (non-breeding seasons only)
		Breeding seabird assemblage
Noss SPA	385	Fulmar
		Gannet (non-breeding seasons only)
		Breeding seabird assemblage
Foula SPA	389	Fulmar
		Puffin (non-breeding seasons only)
		Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	425	Fulmar
		Gannet (non-breeding seasons only)
		Puffin (non-breeding seasons only)
		Breeding seabird assemblage
Fetlar SPA	432	Fulmar
		Breeding seabird assemblage
St Kilda SPA	473	Gannet (non-breeding seasons only)
		Breeding seabird assemblage

5.4.4.6 The MDS considered for the assessment of displacement is shown in Table 5.11. There are no designed-in measures associated with Morven South relevant to displacement.

Table 5.28: Maximum Design Scenario considered for the assessment of potential impacts to offshore ornithological features due to displacement during the operations and maintenance phase

Project phase	MDS	Justification
Operation and maintenance	• Presence of up to 95 operating wind turbines and five OSPs occupying the Morven South Boundary of up to 347.7km^2 • Minimum spacing of 1,000m between rows of wind turbines • Project lifetime of 35 years	Represents the maximum density of wind turbines and structures across the maximum area of Morven South that would cause greatest extent of disturbance and displacement to birds or

Project phase	MDS	Justification
		the greatest duration of impact.

Operation and maintenance phase

5.4.4.7 The displacement assessment for Morven South within this RIAA is based on the use of the Displacement Matrix approach, of the EIA Report (JNCC *et al.*, 2022), which was agreed during consultation with NatureScot (see Table 2.1). As sensitivity to displacement differs considerably between seabird species, species were screened and progressed for the Matrix approach using 'Disturbance Sensitivity' and 'Habitat Specialization' scores from Bradbury *et al.* (2014) and Wade *et al.* (2016) as recommended by JNCC *et al.* (2022). In addition to the species' sensitivity rating, the importance of a species abundance as recorded during baseline surveys of Morven South was considered as to whether species were progressed to the matrix stage (Volume 3, Annex 11.4: Offshore Ornithology Displacement Modelling Report (Matrix Approach), of the EIA Report). Additionally, any species for which the assessment of displacement is recommended by NatureScot was included.

5.4.4.8 For each of the species considered (kittiwake, guillemot, razorbill, puffin, fulmar and gannet), displacement impacts were quantified for the population derived within Morven South plus 2km buffer as recommended by NatureScot (2023f). The full approach of the displacement assessment is detailed in Volume 3, Annex 11.4: Offshore Ornithology Displacement Modelling Report (Matrix Approach), of the EIA Report.

5.4.4.9 The quantification of displacement mortality provides an estimate of the total number of birds subject to mortality. For the purposes of this RIAA, it is necessary to estimate which of those birds may be associated with specific SPAs, in order to calculate the impact on the population for which each site is designated. This is done through the process of apportionment. Full details of the apportionment process and the resulting proportion of birds associated with each SPA are given in Volume 2, Annex 3.1: RIAA: Apportioning.

5.4.4.10 Displacement mortality for each of the qualifying features identified in Table 5.27 apportioned to the relevant SPA, is presented on a seasonal basis in Table 5.29 using the displacement and mortality rates advocated by NatureScot (presented in Table 5.3) and Table 5.30 using the displacement and mortality rates advocated by the Applicant (presented in Table 5.3). The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance (NatureScot, 2023h).

5.4.4.11 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Table 5.29: Calculation of effect from the Morven South alone in relation to displacement based on the parameters advocated by NatureScot (B = breeding season, Post = post-breeding season, NB = non-breeding season, Pre = pre-breeding season). [1] Represents a combination of colony proportion, adult:immature ratio and sabbatical proportion

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
Gannet (1% breeding season mortality rate; 1% non-breeding season mortality rate)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.55													
	Forth Islands SPA	2.6	0.6		0.3	0.43	0.24		0.31	1.1	0.2		0.1	1.4	0.001
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.05		0.06	n/a	0.0		0.0	0.0	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.01		0.02	n/a	0.0		0.0	0.0	<0.001
	Noss SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.03		0.06	n/a	0.0		0.0	0.0	<0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.09		0.14	n/a	0.1		0.0	0.1	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	St Kilda SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.03		<0.01	n/a	0.0		0.0	0.0	<0.001
Gannet (3% breeding season mortality rate; 3% non-breeding season mortality rate)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.55													
	Forth Islands SPA	7.7	1.9		0.9	0.43	0.24		0.31	3.3	0.5		0.3	4.1	0.003
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	1.9		0.9	n/a	0.05		0.06	n/a	0.1		0.1	0.1	0.001
	Fair Isle SPA (non-breeding seasons only)	n/a	1.9		0.9	n/a	0.01		0.02	n/a	0.0		0.0	0.0	<0.001
	Noss SPA (non-breeding seasons only)	n/a	1.9		0.9	n/a	0.03		0.06	n/a	0.1		0.1	0.1	<0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a	1.9		0.9	n/a	0.09		0.14	n/a	0.2		0.1	0.3	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	St Kilda SPA (non-breeding seasons only)	n/a	1.9		0.9	n/a	0.03		<0.01	n/a	0.0		0.0	0.0	<0.001
Guillemot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	Fowlsheugh SPA	15.0	53.9	15.0		0.49	0.20	0.20		7.4	10.6	3.0		20.9	0.022
	Buchan Ness to Collieston Coast SPA	n/a	53.9	15.0		n/a	0.08	0.08		n/a	4.5	1.2		5.7	0.015
	Forth Islands SPA	n/a	53.9	15.0		n/a	0.07	0.07		n/a	4.0	1.1		5.2	0.015
	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.35													
	St Abb's Head to Fast Castle SPA	n/a	53.9	15.0		n/a	0.13	0.13		n/a	7.0	1.9		8.9	0.015
	Troup, Pennan and Lion's Heads SPA	n/a	53.9	15.0		n/a	0.07	0.07		n/a	3.6	1.0		4.6	0.015
Guillemot (5% breeding season mortality rate; 3% non-	Fowlsheugh SPA	25.1	161.6	45.0		0.49	0.20	0.20		12.3	31.9	8.9		53.0	0.057
	Buchan Ness to Collieston Coast SPA	n/a	161.6	45.0		n/a	0.08	0.08		n/a	13.4	3.7		17.2	0.044

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
breeding season mortality rate)	Forth Islands SPA	n/a	161.6	45.0		n/a	0.07	0.07		n/a	12.1	3.4		15.5	0.044
	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.35													
	St Abb's Head to Fast Castle SPA	n/a	161.6	45.0		n/a	0.13	0.13		n/a	20.9	5.8		26.7	0.044
	Troup, Pennan and Lion's Heads SPA	n/a	161.6	45.0		n/a	0.07	0.07		n/a	10.9	3.0		13.9	0.044
Kittiwake (1% breeding season mortality rate; 1% non-breeding seasons mortality rate)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.14													
	Fowlsheugh SPA	1.2	0.8		0.3	0.11	0.01		0.02	0.1	0.0		0.0	0.1	0.001
	Northumberland Marine SPA	See paragraph 5.4.4.15													
	Buchan Ness to Collieston Coast SPA	1.2	0.8		0.3	0.06	0.02		0.02	0.1	0.0		0.0	0.1	<0.001
	Farne Islands SPA	1.2	0.8		0.3	0.02	0.0		0.01	0.0	0.0		0.0	0.0	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	St Abb`s Head to Fast Castle SPA	1.2	0.8		0.3	0.04	0.0		0.01	0.0	0.0		0.0	0.0	<0.001
	Forth Islands SPA	1.2	0.8		0.3	0.03	0.0		0.01	0.0	0.0		0.0	0.0	<0.001
	Coquet Island SPA	1.2	0.8		0.3	<0.01	0.0		0.0	0.0	0.0		0.0	0.0	<0.001
	Troup, Pennan and Lion's Heads SPA	1.2	0.8		0.3	0.03	0.02		0.03	0.0	0.0		0.0	0.1	<0.001
	East Caithness Cliffs SPA	1.2	0.8		0.3	0.02	0.06		0.08	0.0	0.0		0.0	0.1	<0.001
	Flamborough and Filey Coast SPA	1.2	0.8		0.3	0.06	0.05		0.07	0.1	0.0		0.0	0.1	<0.001
	North Caithness Cliffs SPA	1.2	0.8		0.3	<0.01	0.01		0.02	0.0	0.0		0.0	0.0	<0.001
	Copinsay SPA	1.2	0.8		0.3	<0.01	0.0		0.0	0.0	0.0		0.0	0.0	<0.001
	Hoy SPA	1.2	0.8		0.3	0	0.0		0.0	0.0	0.0		0.0	0.0	<0.001
	West Westray SPA (non-breeding seasons only)	1.2	0.8		0.3	n/a	0.02		0.02	0.0	0.0		0.0	0.0	<0.001
Kittiwake	Outer Firth of Forth and St	See paragraph 5.4.4.14													

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)	Andrews Bay Complex SPA														
	Fowlsheugh SPA	3.5	2.5		1.0	0.1	0.0		0.0	0.4	0.0		0.0	0.4	0.002
	Northumberland Marine SPA	See paragraph 5.4.4.15													
	Buchan Ness to Collieston Coast SPA	3.5	2.5		1.0	0.1	0.0		0.0	0.2	0.0		0.0	0.3	0.001
	Farne Islands SPA	3.5	2.5		1.0	0.0	0.0		0.0	0.1	0.0		0.0	0.1	0.001
	St Abb`s Head to Fast Castle SPA	3.5	2.5		1.0	0.0	0.0		0.0	0.1	0.0		0.0	0.1	0.001
	Forth Islands SPA	3.5	2.5		1.0	0.0	0.0		0.0	0.1	0.0		0.0	0.1	0.001
	Coquet Island SPA	3.5	2.5		1.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.001
	Troup, Pennan and Lion's Heads SPA	3.5	2.5		1.0	0.0	0.0		0.0	0.1	0.1		0.0	0.2	0.001
	East Caithness Cliffs SPA	3.5	2.5		1.0	0.0	0.1		0.1	0.1	0.1		0.1	0.3	0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Flamborough and Filey Coast SPA	3.5	2.5		1.0	0.1	0.1		0.1	0.2	0.1		0.1	0.4	<0.001
	North Caithness Cliffs SPA	3.5	2.5		1.0	0.0	0.0		0.0	0.0	0.0		0.0	0.1	0.001
	Copinsay SPA	3.5	2.5		1.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	<0.001
	Hoy SPA	3.5	2.5		1.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	<0.001
	West Westray SPA (non-breeding seasons only)	3.5	2.5		1.0	n/a	0.0		0.0	0.0	0.0		0.0	0.1	0.001
Puffin (3% breeding season mortality rate; 1% non-breeding season mortality rate)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.46													
	Northumberland Marine SPA	See paragraph 5.4.4.48													
	Farne Islands SPA	1.9		2.6		0.19		0.17		0.4		0.4		0.8	0.001
	Forth Islands SPA	1.9		2.6		0.18		0.27		0.3		0.7		1.0	0.001
	Coquet Island SPA	1.9		2.6		0.07		0.05		0.1		0.1		0.3	0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Flamborough and Filey Coast SPA	1.9		2.6		<0.01		<0.01		0.0		0.0		0.0	<0.001
	North Caithness Cliffs SPA	1.9		2.6		<0.01		<0.01		0.0		0.0		0.0	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a		2.6		n/a		0.01		n/a		0.0		0.0	<0.001
	Foula SPA (non-breeding seasons only)	n/a		2.6		n/a		0.03		n/a		0.1		0.1	0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a		2.6		n/a		0.03		n/a		0.1		0.1	<0.001
Puffin (5% breeding season mortality rate; 3% non-breeding season mortality rate)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.46													
	Northumberland Marine SPA	See paragraph 5.4.4.48													
	Farne Islands SPA	3.2		7.8		0.19		0.17		0.6		1.3		2.0	0.002
	Forth Islands SPA	3.2		7.8		0.18		0.27		0.6		2.1		2.7	0.003

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Coquet Island SPA	3.2		7.8		0.07		0.05		0.2		0.4		0.6	0.001
	Flamborough and Filey Coast SPA	3.2		7.8		<0.01		<0.01		0.0		0.0		0.0	<0.001
	North Caithness Cliffs SPA	3.2		7.8		<0.01		<0.01		0.0		0.0		0.0	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a		7.8		n/a		0.01		n/a		0.1		0.1	0.001
	Foula SPA (non-breeding seasons only)	n/a		7.8		n/a		0.03		n/a		0.2		0.2	0.003
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a		7.8		n/a		0.03		n/a		0.2		0.2	0.001
Razorbill (3% breeding season mortality rate; 1% non-breeding season	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.40													
	Fowlsheugh SPA	1.0	17.6	2.4	0.5	0.25	0.01	0.01	0.01	0.3	0.2	0.0	0.0	0.5	0.002
	Northumberland Marine SPA	See paragraph 5.4.4.41													

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
mortality rate)	St Abb`s Head to Fast Castle SPA	1.0	17.6	2.4	0.5	0.05	<0.01	<0.01	<0.01	0.0	0.1	0.0	0.0	0.1	0.003
	Forth Islands SPA	1.0	17.6	2.4	0.5	0.08	0.01	0.01	0.01	0.1	0.2	0.0	0.0	0.3	0.003
	East Caithness Cliffs SPA (non-breeding seasons only)	n/a	17.6	2.4	0.5	n/a	0.04	0.03	0.04	n/a	0.7	0.1	0.0	0.8	0.002
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	17.6	2.4	0.5	n/a	0.03	0.03	0.03	n/a	0.6	0.1	0.0	0.7	0.002
Razorbill (5% breeding season mortality rate; 3% non-breeding season mortality rate)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.40													
	Fowlsheugh SPA	1.7	52.8	7.3	1.6	0.25	0.01	0.01	0.01	0.4	0.6	0.1	0.0	1.1	0.005
	Northumberland Marine SPA	See paragraph 5.4.4.41													
	St Abb`s Head to Fast Castle SPA	1.7	52.8	7.3	1.6	0.05	<0.01	<0.01	<0.01	0.1	0.2	0.0	0.0	0.3	0.007

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Forth Islands SPA	1.7	52.8	7.3	1.6	0.08	0.01	0.01	0.01	0.1	0.5	0.1	0.0	0.7	0.008
	East Caithness Cliffs SPA (non-breeding seasons only)	n/a	52.8	7.3	1.6	n/a	0.04	0.03	0.04	n/a	2.2	0.2	0.1	2.5	0.006
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	52.8	7.3	1.6	n/a	0.03	0.03	0.03	n/a	1.8	0.2	0.1	2.0	0.005
Fulmar (1% mortality rate – all seasons)	Northumberland Marine SPA	See paragraph 5.4.4.50													
	Coquet Island SPA	0.5	0.5	0.6	0.4	<0.01	<0.01	<0.01	<0.01	0.0	0.0	0.0	0.0	0.0	<0.001
	East Caithness Cliffs SPA	0.5	0.5	0.6	0.4	0.05	0.03	0.03	0.03	0.0	0.0	0.0	0.0	0.1	<0.001
	Flamborough and Filey Coast SPA	0.5	0.5	0.6	0.4	<0.01	<0.01	<0.01	<0.01	0.0	0.0	0.0	0.0	0.0	<0.001
	North Caithness Cliffs SPA	0.5	0.5	0.6	0.4	0.04	0.03	0.04	0.03	0.0	0.0	0.0	0.0	0.1	<0.001
	Hoy SPA	0.5	0.5	0.6	0.4	0.05	0.04	0.05	0.04	0.0	0.0	0.0	0.0	0.1	<0.001
	Fair Isle SPA	0.5	0.5	0.6	0.4	0.06	0.06	0.07	0.06	0.0	0.0	0.0	0.0	0.1	<0.001
	Noss SPA	0.5	0.5	0.6	0.4	0.01	0.01	0.01	0.01	0.0	0.0	0.0	0.0	0.0	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Foula SPA	0.5	0.5	0.6	0.4	0.01	0.04	0.05	0.04	0.0	0.0	0.0	0.0	0.1	<0.001
	Hermaness, Saxa Vord and Valla Field SPA	0.5	0.5	0.6	0.4	0.01	0.01	0.02	0.01	0.0	0.0	0.0	0.0	0.0	<0.001
	Fetlar SPA	0.5	0.5	0.6	0.4	0.01	0.02	0.02	0.02	0.0	0.0	0.0	0.0	0.0	<0.001
Fulmar (3% mortality rate – all seasons)	Northumberland Marine SPA	See paragraph 5.4.4.50													
	Coquet Island SPA	1.5	1.5	1.8	1.1	<0.01	<0.01	<0.01	<0.01	0.0	0.0	0.0	0.0	0.0	0.001
	East Caithness Cliffs SPA	1.5	1.5	1.8	1.1	0.05	0.03	0.03	0.03	0.1	0.0	0.1	0.0	0.2	0.001
	Flamborough and Filey Coast SPA	1.5	1.5	1.8	1.1	<0.01	<0.01	<0.01	<0.01	0.0	0.0	0.0	0.0	0.0	0.001
	North Caithness Cliffs SPA	1.5	1.5	1.8	1.1	0.04	0.03	0.04	0.03	0.1	0.0	0.1	0.0	0.2	0.001
	Hoy SPA	1.5	1.5	1.8	1.1	0.05	0.04	0.05	0.04	0.1	0.1	0.1	0.0	0.3	0.001
	Fair Isle SPA	1.5	1.5	1.8	1.1	0.06	0.06	0.07	0.06	0.1	0.1	0.1	0.1	0.4	0.001
	Noss SPA	1.5	1.5	1.8	1.1	0.01	0.01	0.01	0.01	0.0	0.0	0.0	0.0	0.1	0.001
	Foula SPA	1.5	1.5	1.8	1.1	0.01	0.04	0.05	0.04	0.0	0.1	0.1	0.0	0.2	0.001
	Hermaness, Saxa Vord and Valla Field SPA	1.5	1.5	1.8	1.1	0.01	0.01	0.02	0.01	0.0	0.0	0.0	0.0	0.1	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Fetlar SPA	1.5	1.5	1.8	1.1	0.01	0.02	0.02	0.02	0.0	0.0	0.0	0.0	0.1	0.001

Table 5.30: Calculation of effect from the Morven South alone in relation to displacement based on the parameters advocated by the Applicant (B = breeding season, Post = post-breeding season, NB = non-breeding season, Pre = pre-breeding season). [1] Represents a combination of colony proportion, adult:immature ratio and sabbatical proportion

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
Gannet (1% mortality rate – all seasons)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.55													
	Forth Islands SPA	2.6	0.6		0.3	0.74	0.24		0.31	1.9	0.2		0.1	2.1	0.001
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.05		0.06	n/a	0.0		0.0	0.0	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.01		0.02	n/a	0.0		0.0	0.0	<0.001
	Noss SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.03		0.06	n/a	0.0		0.0	0.0	<0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.09		0.14	n/a	0.1		0.0	0.1	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	St Kilda SPA (non-breeding seasons only)	n/a	0.6		0.3	n/a	0.03		<0.01	n/a	0.0		0.0	0.0	<0.001
Guillemot (1% mortality rate – all seasons)	Fowlsheugh SPA	n/a					0.20	0.20			8.8	2.5		11.3	0.012
	Buchan Ness to Collieston Coast SPA	n/a				n/a	0.08	0.08		n/a	3.7	1.0		4.8	0.012
	Forth Islands SPA	n/a				n/a	0.07	0.07		n/a	3.4	0.9		4.3	0.012
	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.35													
	St Abb`s Head to Fast Castle SPA	n/a				n/a	0.13	0.13		n/a	5.8	1.6		7.4	0.012
	Troup, Pennan and Lion's Heads SPA	n/a				n/a	0.07	0.07		n/a	3.0	0.8		3.9	0.012
Kittiwake (1% mortality rate – all seasons)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.14													

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Fowlsheugh SPA	1.2	0.8		0.3	0.16	0.01		0.02	0.2	0.0		0.0	0.2	0.001
	Northumberland Marine SPA	See paragraph 5.4.4.15													
	Buchan Ness to Collieston Coast SPA	1.2	0.8		0.3	0.08	0.02		0.02	0.1	0.0		0.0	0.1	0.001
	Farne Islands SPA	1.2	0.8		0.3	0.03	<0.01		0.01	0.0	0.0		0.0	0.0	<0.001
	St Abb`s Head to Fast Castle SPA	1.2	0.8		0.3	0.05	<0.01		0.01	0.1	0.0		0.0	0.1	0.001
	Forth Islands SPA	1.2	0.8		0.3	0.04	<0.01		0.01	0.0	0.0		0.0	0.0	0.001
	Coquet Island SPA	1.2	0.8		0.3	<0.01	<0.01		<0.01	0.0	0.0		0.0	0.0	<0.001
	Troup, Pennan and Lion's Heads SPA	1.2	0.8		0.3	0.04	0.02		0.03	0.0	0.0		0.0	0.1	<0.001
	East Caithness Cliffs SPA	1.2	0.8		0.3	0.04	0.06		0.08	0.0	0.0		0.0	0.1	<0.001
	Flamborough and Filey Coast SPA	1.2	0.8		0.3	0.09	0.05		0.07	0.1	0.0		0.0	0.2	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	North Caithness Cliffs SPA	1.2	0.8		0.3	<0.01	0.01		0.02	0.0	0.0		0.0	0.0	<0.001
	Copinsay SPA	1.2	0.8		0.3	<0.01	<0.01		<0.01	0.0	0.0		0.0	0.0	<0.001
	Hoy SPA	1.2	0.8		0.3	<0.01	<0.01		<0.01	0.0	0.0		0.0	0.0	<0.001
	West Westray SPA (non-breeding seasons only)	1.2	0.8		0.3	n/a	<0.01		<0.01	0.0	0.0		0.0	0.0	<0.001
Puffin (1% mortality rate – all seasons)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.46													
	Northumberland Marine SPA	See paragraph 5.4.4.48													
	Farne Islands SPA	0.5		2.2		0.19		0.17		0.1		0.4		0.5	0.001
	Forth Islands SPA	0.5		2.2		0.18		0.27		0.1		0.6		0.7	0.001
	Coquet Island SPA	0.5		2.2		0.07		0.05		0.0		0.1		0.2	<0.001
	Flamborough and Filey Coast SPA	0.5		2.2		<0.01		<0.01		0.0		0.0		0.0	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	North Caithness Cliffs SPA	0.5		2.2		<0.01		<0.01		0.0		0.0		0.0	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a		2.2		n/a		0.01		n/a		0.0		0.0	<0.001
	Foula SPA (non-breeding seasons only)	n/a		2.2		n/a		0.03		n/a		0.1		0.1	0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a		2.2		n/a		0.03		n/a		0.1		0.1	<0.001
Razorbill (1% mortality rate – all seasons)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.4.40													
	Fowlsheugh SPA	0.3	14.7	2.0	0.4	0.25	0.01	0.01	0.01	0.1	0.2	0.0	0.0	0.3	0.001
	Northumberland Marine SPA	See paragraph 5.4.4.41													
	St Abb`s Head to Fast Castle SPA	0.3	14.7	2.0	0.4	0.05	<0.01	<0.01	<0.01	0.0	0.1	0.0	0.0	0.1	0.002

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Forth Islands SPA	0.3	14.7	2.0	0.4	0.08	0.01	0.01	0.01	0.0	0.1	0.0	0.0	0.2	0.002
	East Caithness Cliffs SPA (non-breeding seasons only)	n/a	14.7	2.0	0.4	n/a	0.04	0.03	0.04	n/a	0.6	0.1	0.0	0.7	0.002
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	14.7	2.0	0.4	n/a	0.03	0.03	0.03	n/a	0.5	0.1	0.0	0.6	0.001
Fulmar (1% mortality rate – all seasons)	Northumberland Marine SPA	See paragraph 5.4.4.50													
	Coquet Island SPA	0.3	0.2	0.3	0.2	<0.01	<0.01	<0.01	<0.01	0.0	0.0	0.0	0.0	0.0	<0.001
	East Caithness Cliffs SPA	0.3	0.2	0.3	0.2	0.05	0.03	0.03	0.03	0.0	0.0	0.0	0.0	0.0	<0.001
	Flamborough and Filey Coast SPA	0.3	0.2	0.3	0.2	<0.01	<0.01	<0.01	<0.01	0.0	0.0	0.0	0.0	0.0	<0.001
	North Caithness Cliffs SPA	0.3	0.2	0.3	0.2	0.04	0.03	0.04	0.03	0.0	0.0	0.0	0.0	0.0	<0.001
	Hoy SPA	0.3	0.2	0.3	0.2	0.05	0.04	0.05	0.04	0.0	0.0	0.0	0.0	0.0	<0.001
	Fair Isle SPA	0.3	0.2	0.3	0.2	0.06	0.06	0.07	0.06	0.0	0.0	0.0	0.0	0.1	<0.001

Feature	European site	Unapportioned seasonal displacement mortality (no. of birds)				Apportioning value				Apportioned displacement mortality (no. of birds)				Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	NB	Pre	B[1]	Post	NB	Pre	B	Post	NB	Pre		
	Noss SPA	0.3	0.2	0.3	0.2	0.01	0.01	0.01	0.01	0.0	0.0	0.0	0.0	0.0	<0.001
	Foula SPA	0.3	0.2	0.3	0.2	0.01	0.04	0.05	0.04	0.0	0.0	0.0	0.0	0.0	<0.001
	Hermaness, Saxa Vord and Valla Field SPA	0.3	0.2	0.3	0.2	0.01	0.01	0.02	0.01	0.0	0.0	0.0	0.0	0.0	<0.001
	Fetlar SPA	0.3	0.2	0.3	0.2	0.01	0.02	0.02	0.02	0.0	0.0	0.0	0.0	0.0	<0.001

Kittiwake

5.4.4.12 The potential for LSE[2] in relation to displacement impacts could not be ruled out for kittiwake as a qualifying feature at 13 breeding colony SPAs (Table 5.27). Of these, all but one (West Westray SPA) require consideration in all seasons with the West Westray SPA requiring consideration in non-breeding seasons only. In addition, the potential for LSE[2] could not be ruled out for the Outer Firth of Forth and St Andrews Bay Complex SPA and Northumberland Marine SPAs which are designated to protect sea areas used by kittiwakes from adjacent SPA breeding colonies.

5.4.4.13 For all breeding colony SPAs, the predicted impact represented less than a 0.02 percentage point increase in the associated baseline mortality of each SPA under both NatureScot's (Table 5.29) and the Applicant's (Table 5.30) approach.

5.4.4.14 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by kittiwakes from adjacent breeding colonies (NatureScot, 2022). For kittiwake, this includes the Forth Islands SPA, St Abb's Head to Fast Castle SPA, Fowlsheugh SPA, Buchan Ness to Collieston Coast SPA, and Troup, Pennan and Lion's Head SPA (NatureScot, 2022). The conclusions reached for the kittiwake qualifying feature of these SPAs are therefore considered applicable to the kittiwake qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

5.4.4.15 The Northumberland Marine SPA is designated to protect seas areas used by kittiwakes from adjacent breeding colonies. This includes the Coquet Island SPA and Farne Islands SPA. The conclusions reached for the kittiwake qualifying feature of these SPAs are therefore considered applicable to the kittiwake qualifying feature of the Northumberland Marine SPA.

Guillemot

5.4.4.16 The potential for LSE[2] in relation to displacement impacts could not be ruled out for guillemot as a qualifying feature at the Fowlsheugh SPA in all seasons. The potential for LSE[2] could also not be ruled out for the Buchan Ness to Collieston Coast SPA, Forth Islands SPA, St Abb's Head to Fast Castle SPA and Troup, Pennan and Lion's Heads SPA in non-breeding seasons only. For the Fowlsheugh SPA, the impacts predicted applying NatureScot's (Table 5.29) approach, surpassed 0.02 percentage point increase in the associated baseline mortality of each and therefore population modelling has been undertaken. For the other four SPAs, the 0.02 threshold is only surpassed when applying the upper end of the displacement and mortality rates associated with NatureScot's approach and therefore population modelling has been undertaken for this approach. Under the Applicant's (Table 5.30) approach, the 0.02 threshold is not surpassed for any SPA.

5.4.4.17 The screening exercise in the Morven Site HRA Screening Report was undertaken following a precautionary approach which applied the mean-maximum foraging range plus one standard deviation, giving a foraging range for guillemot of 95.2km measured from the edge of Morven South to the edge of the Fowlsheugh SPA. The use of this approach therefore identifies connectivity between Morven South and the Fowlsheugh SPA.

5.4.4.18 The distances used in the breeding season apportioning approach for Morven South were measured from the centre of Morven South to the centre of the Fowlsheugh SPA following the recommended approach in NatureScot (2018). This approach differs from that used to identify connectivity in the Morven Site HRA Screening Report. As this distance is greater than the mean-maximum foraging range plus one standard deviation this results in no impact being apportioned to guillemot at the Fowlsheugh SPA in the breeding season. That suggests the magnitude of any impacts on guillemot from this SPA from Morven South will be negligible in the breeding season. However, during pre-application consultation, NatureScot requested that the apportioning approach be altered to use edge to edge distances meaning that all SPAs for which LSE[2] was identified would receive an apportioning value (see Table 2.1). The Applicant does not support the alteration of approach to use edge to edge distances for

breeding season apportioning for guillemot, as recommended by NatureScot, in light of the observations outlined in the remainder of this section.

5.4.4.19 Only part of the Morven South array area is within foraging range with it located between 83.7km and 115.8km from the edge of the Fowlsheugh SPA. Of the data included by Woodward *et al.* (2019) to calculate generic foraging ranges, only one study had a maximum foraging range beyond 80km, that being at Fair Isle (which is not included when deriving the 95.2km foraging range used to identify connectivity), with none of the 185 remaining birds tracked (all but 15 in Scotland) exceeding a maximum foraging range of 80km. Tracking of guillemot from the Fowlsheugh SPA during the breeding season showed no overlap between birds from the Fowlsheugh SPA and Morven South (Wakefield *et al.,* 2017; Birdlife International, 2023). These data are incorporated into the data presented in Figure 5.11 which shows 95% utilisation distribution bands of guillemot from UK SPAs and further illustrate that there is no connectivity between breeding birds from any SPA and Morven South. All of this information further supports the conclusion that the use of a 95.2km foraging range is not representative of guillemot behaviour at Fowlsheugh SPA and that no impact from Morven South should be apportioned to the Fowlsheugh SPA during the breeding season.

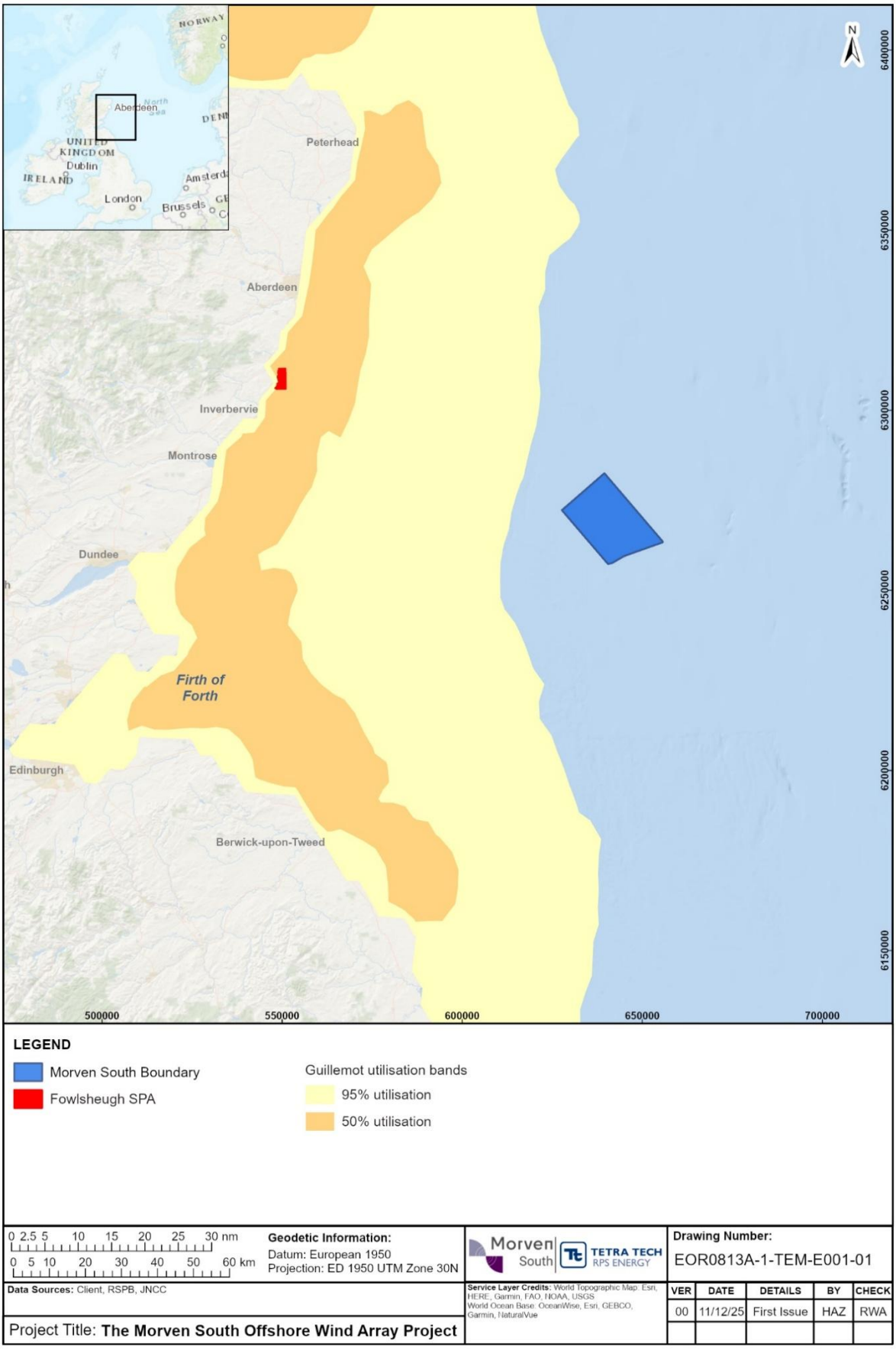


Figure 5.11: Guillemot utilisation distribution (50% and 95% contours) in relation to the Fowlsheugh Special Protection Area and Morven South

5.4.4.20 Although the site-specific tracking data and the data incorporated into Woodward *et al.* (2019) presented above indicate no connectivity between breeding guillemot from the Fowlsheugh SPA, guillemot were recorded in the breeding season during baseline surveys of Morven South. However, the presence of birds at Morven South does not provide enough evidence to suggest that there is connectivity between breeding colonies and Morven South with a number of other, more ecologically valid reasons why guillemot may be present at Morven South during the breeding season. These are discussed below.

5.4.4.21 The digital aerial survey data for Morven South plus a 4km buffer between August 2021 and July 2023 is presented in Figure 5.12 with equivalent data for Morven North also presented. The population estimates for Morven South plus a 4km buffer in the breeding season (April to June) are generally lower than those in the post-breeding (July and August) and non-breeding seasons (September to March) and significantly lower than those recorded in the breeding season for Morven North (with the exception of April in Year 2). Further to this the populations recorded at Morven North show a marked increase between April and May remaining higher into June. However, this is not replicated in the population estimates for Morven South suggesting a stable population at Morven South. This is therefore not consistent with the presence of breeding birds which would be expected to show some variation in foraging behaviour as the breeding season progresses.

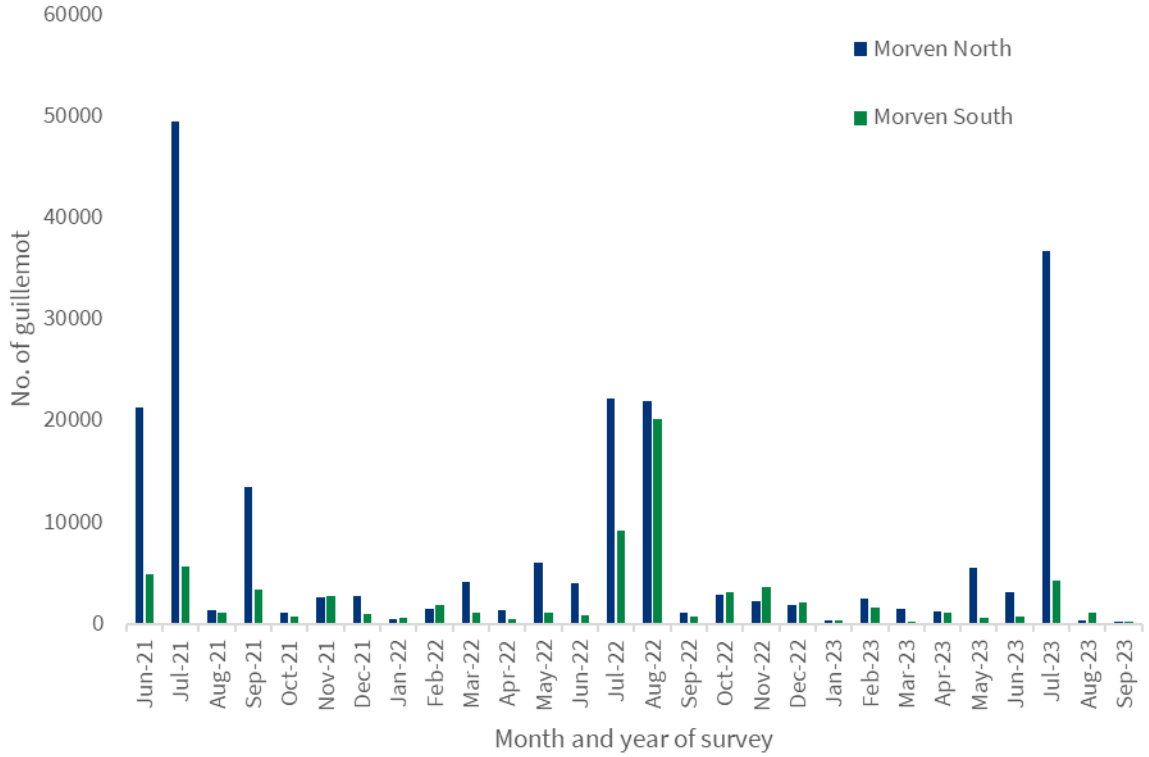


Figure 5.12: Population estimates for Morven South and Morven North plus respective 4km buffers during aerial surveys of each project

5.4.4.22 As the boundaries for Morven North and Morven South are adjacent to one another, there is a degree of overlap when 4km buffers, which were used to define the study area across which baseline surveys were undertaken, are applied to Morven North and/or Morven South. As the trends in the populations of guillemot at Morven North are not mirrored in the population trends observed at Morven South, this would therefore suggest that any increases in the populations of guillemot in the breeding season occur in the inshore areas of Morven North declining in offshore areas towards Morven South. This is illustrated by the distribution maps of guillemot across breeding season months (April to June) which are provided in Figure 5.13. In April surveys there is no real trend in the distribution of guillemot across the Morven site. However, in May and June when higher densities occur (red and orange areas in Figure 5.13), they occur in the northern region of the site and do not extend into Morven South. This

explains the increases in the abundance of guillemot observed in the survey data for Morven North that do not occur at Morven South.

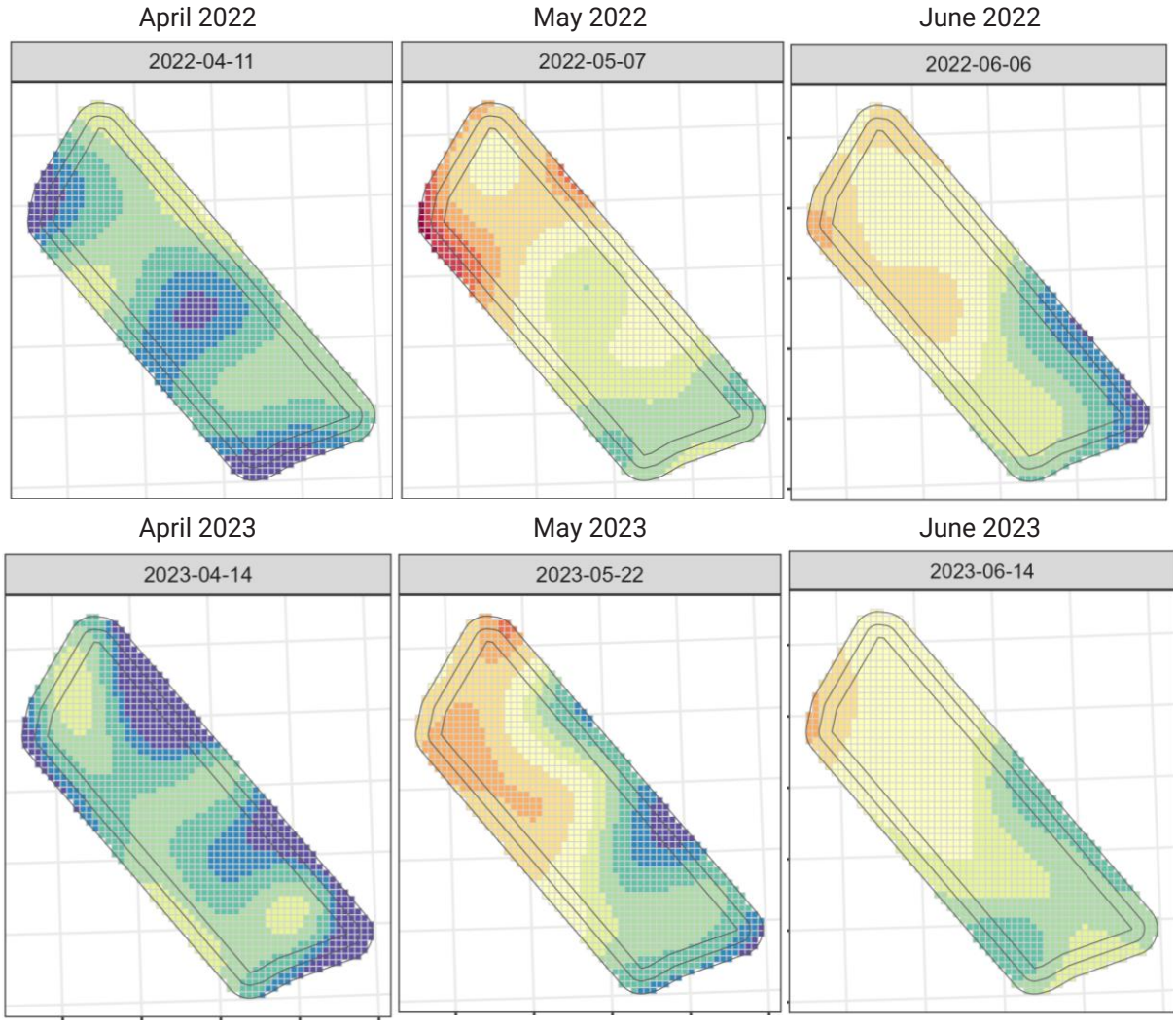


Figure 5.13: Distribution of guillemot in baseline aerial surveys of the Morven project area (Morven North and Morven South plus 4 km buffers) during breeding season months (April to June).

5.4.4.23 The evidence from the baseline survey data would therefore suggest that the guillemot present at Morven South are not breeding birds and it is therefore considered that they are immature and non-breeding birds. Furness (2015) estimates that there are nearly 45,000 immature birds associated with the Fowlsheugh SPA with many more associated with other SPA colonies on the east coast of Scotland which are likely to be distributed over a much larger area than that occupied by breeding birds. NatureScot's current advice in the non-breeding season is that guillemot, including immature birds, remain in the vicinity of colonies. It is therefore reasonable to assume that immature birds are still present in the vicinity of colonies during the breeding season.

5.4.4.24 It is known that immature seabirds prospect colonies during the breeding season and the presence of guillemot at Morven South and Morven North would support this observation with these birds possibly not using waters close to colonies due to the increased competition from breeding birds. An increasing proportion of immature birds as distance offshore increases has previously been documented for gannet and kittiwake across the Hornsea Zone (NIRAS, 2022).

5.4.4.25 The Applicant therefore considers that guillemot from SPA breeding colonies may only occur at Morven South during the post-breeding and non-breeding seasons. When this approach is followed the predicted impact at all five SPAs incorporated into the analysis in Table 5.30 do not surpass the 0.02 percentage point threshold defined by NatureScot.

5.4.4.26 As mentioned above, during pre-application consultation, NatureScot advised that the apportioning approach to apply in the breeding season for guillemot should incorporate distances measured from the edge of Morven South to the edge of relevant breeding colonies. As a result of applying this methodology a breeding season apportioning value is then calculated for the Fowlsheugh SPA. Under NatureScot's approach, the predicted annual impact therefore surpasses the 0.02 percentage point threshold defined by NatureScot and population modelling has been undertaken.

5.4.4.27 The PVA model conducted for guillemot at Fowlsheugh SPA when applying the annual season impact calculated using NatureScot's advocated approach indicates a median CPS of 0.978 to 0.991; (i.e. the population after 35 years would be 0.87 to 2.17% smaller than the Counterfactual of Population Size (CPS) with a 50th percentile value of 45.9 to 48.5 (Table 5.31)). In terms of the population size, this means that the median of the impacted population fell within the 45th to 49th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario, and therefore there would likely be no adverse effect to the population as a result of this impact. However, as stated the Counterfactual of Growth Rate (CGR) is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.999 to 1.000 which translates to a growth rate <0.1 to 0.1% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.4.4.28 The population of guillemot at the Fowlsheugh SPA remained stable between the Seabird 2000 and Seabirds Count national censuses but has increased subsequently (BTO *et al*., 2025). Under all scenarios the counterfactual scenario predicts a positive population growth rate and under the impacted scenario the population growth rate for guillemot remains positive meaning the population will continue to grow despite the presence of Morven South.

5.4.4.29 The impacts predicted for the Buchan Ness to Collieston Coast SPA, Forth Islands SPA, St Abb's Head to Fast Castle SPA and Troup, Pennan and Lion's Heads SPA when applying the upper end of the displacement and mortality rates associated with NatureScot's approach.

5.4.4.30 For the Buchan Ness to Collieston Coast SPA, the PVA model conducted for guillemot when applying the annual season impact calculated using NatureScot's advocated approach indicates a median CPS of 0.983; (i.e. the population after 35 years would be 1.7% smaller than the CPS with a 50th percentile value of 46.4 (Table 5.31)). In terms of the population size, this means that the median of the impacted population fell within the 46th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario, and therefore there would likely be no adverse effect to the population as a result of this impact. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 1.000 which translates to a growth rate <0.1% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations.

5.4.4.31 The population of guillemot at the Buchan Ness to Collieston Coast SPA remained stable between the Seabird 2000 and Seabirds Count national censuses but has decreased slightly since Seabirds Count. Under all scenarios the counterfactual scenario predicts a positive population growth rate and under the impacted scenario the population growth rate for

guillemot remains positive meaning the population will continue to grow despite the presence of Morven South.

5.4.4.32 For the Forth Islands SPA, the PVA model conducted for guillemot when applying the annual season impact calculated using NatureScot's advocated approach indicates a median CPS of 0.983; (i.e. the population after 35 years would be 1.7% smaller than the CPS with a 50th percentile value of 45.8 (Table 5.31)). In terms of the population size, this means that the median of the impacted population fell within the 45th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario, and therefore there would likely be no adverse effect to the population as a result of this impact. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 1.000 which translates to a growth rate <0.1% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations.

5.4.4.33 For the St Abb's Head to Fast Castle SPA, the PVA model conducted for guillemot when applying the annual season impact calculated using NatureScot's advocated approach indicates a median CPS of 0.983; (i.e. the population after 35 years would be 1.7% smaller than the CPS with a 50th percentile value of 46.9 (Table 5.31)). In terms of the population size, this means that the median of the impacted population fell within the 46th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario, and therefore there would likely be no adverse effect to the population as a result of this impact. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 1.000 which translates to a growth rate <0.1% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations.

5.4.4.34 For the Troup, Pennan and Lion's Heads SPA, the PVA model conducted for guillemot when applying the annual season impact calculated using NatureScot's advocated approach indicates a median CPS of 0.983; (i.e. the population after 35 years, would be 1.7% smaller than the CPS with a 50th percentile value of 46.2 (Table 5.31)). In terms of the population size, this means that the median of the impacted population fell within the 46th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario, and therefore there would likely be no adverse effect to the population as a result of this impact. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 1.000 which translates to a growth rate <0.1% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations.

5.4.4.35 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by guillemots from adjacent breeding colonies. For guillemot, this includes the Forth Islands SPA, the St Abb's Head to Fast Castle SPA, the Fowlsheugh SPA and the Buchan Ness to Collieston Coast SPA. The conclusions reached for the guillemot qualifying feature of these SPAs are therefore considered applicable to the guillemot qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

5.4.4.36 The populations of guillemot estimated at Morven South from site-specific surveys that have been used to inform displacement analyses were estimated incorporating availability bias factors from Thaxter 2010). This approach was agreed with NatureScot in pre-application consultation (Table 2.1). Dunn *et al.* (2024) presents updated monthly availability bias factors for guillemot for July to March. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to estimate the population estimates used in the assessment s presented above and therefore these populations likely represent an over-estimate of the number of guillemot present at Morven South between July and March.

Table 5.31: Summary of population viability analysis results for displacement impacts on the guillemot feature of the Fowlsheugh, Buchan Ness to Collieston Coast, Forth Islands, St Abb's Head to Fast Castle and Troup, Pennan and Lion's Heads Special Protection Areas after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Fowlsheugh SPA								
Baseline	-	-	355,205	1.025	139.0	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	20.9	0.022	352,020	1.025	136.8	1.000	0.991	48.5
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	53.0	0.057	347,510	1.025	133.7	0.999	0.978	45.9
Buchan Ness to Collieston Coast SPA								
Baseline	-	-	146,585	1.025	139.3	-	-	-
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	17.2	0.044	144,129	1.025	135.3	1.000	0.983	46.4
Forth Islands SPA								
Baseline	-	-	125,543	1.025	139.3	-	-	-
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	15.5	0.044	123,426	1.025	135.3	1.000	0.983	45.8
St Abb's Head to Fast Castle SPA								
Baseline	-	-	232,956	1.025	138.7	-	-	-

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	26.7	0.044	229,226	1.025	134.8	1.000	0.983	46.9
Troup, Pennan and Lion's Heads SPA								
Baseline	-	-	124,364	1.025	140.0	-	-	-
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	13.9	0.044	122,128	1.025	136.1	1.000	0.983	46.2

Razorbill

5.4.4.37 The potential for LSE[2] in relation to displacement impacts could not be ruled out for razorbill as a qualifying feature at five breeding colony SPAs. Of these, three were identified for consideration in all seasons with the East Caithness Cliffs SPA and Flamborough and Filey Coast SPA requiring consideration in non-breeding seasons only. In addition, the potential for LSE[2] could not be ruled out for the Outer Firth of Forth and St Andrews Bay Complex SPA and Northumberland Marine SPAs which are designated to protect sea areas used by razorbills from adjacent SPA breeding colonies.

5.4.4.38 For SPAs for which there was connectivity with Morven South in all seasons, the impact remained below the 0.02 percentage point threshold as defined by NatureScot for both NatureScot's (Table 5.29) and the Applicant's (Table 5.30) approach.

5.4.4.39 For SPAs for which displacement impacts were considered in non-breeding seasons only, the predicted impact also represented less than a 0.02 percentage point increase in the associated baseline mortality of each SPA, under both NatureScot's (Table 5.29) and the Applicant's (Table 5.30) approach.

5.4.4.40 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by razorbills during the non-breeding season. The conservation and management advice for the site suggests that razorbills may visit their colonies in the pre-breeding period. The only breeding colony of razorbill within the Outer Firth of Forth and St Andrews Bay Complex SPA is the Forth Islands SPA. In the absence of any further advice as to the size of the population of razorbill present in the Outer Firth of Forth and St Andrews Bay Complex SPA it is considered that the conclusions reached for the razorbill qualifying feature of the Forth Islands SPA are applicable to the razorbill qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

5.4.4.41 The Northumberland Marine SPA is designated to protect seas areas used by razorbills from adjacent breeding colonies. This includes the Farne Islands SPA (Natural England, 2015). The conclusions reached for the razorbill qualifying feature of the Farne Islands SPA is therefore considered applicable to the razorbill qualifying feature of the Northumberland Marine SPA.

5.4.4.42 The populations of razorbill estimated at Morven South from site-specific surveys that have been used to inform displacement analyses were estimated incorporating availability bias factors from Thaxter 2010). This approach was agreed with NatureScot in pre-application consultation (Table 2.1). Dunn *et al.* (2024) presents updated monthly availability bias factors for razorbill for July to January. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to estimate the population estimates used in the assessments presented above with the exception of January and therefore these populations likely represent an over-estimate of the number of razorbill present at Morven South between July and December.

Puffin

5.4.4.43 The potential for LSE[2] in relation to displacement impacts could not be ruled out for puffin as a qualifying feature at eight breeding colony SPAs. Of these, five were identified for consideration in all seasons with the Fair Isle SPA, Foula SPA and Hermaness, Saxa Vord and Valla Field SPA requiring consideration in non-breeding seasons only. In addition the potential for LSE[2] could not be ruled out for the Outer Firth of Forth and St Andrews Bay Complex SPA and Northumberland Marine SPAs which are designated to protect sea areas used by puffins from adjacent SPA breeding colonies.

5.4.4.44 For SPAs for which there was connectivity with Morven South in all seasons, the impact remained below the 0.02 percentage point threshold as defined by NatureScot for both NatureScot's (Table 5.29) and the Applicant's (Table 5.30) approach.

5.4.4.45 For SPAs for which displacement impacts were considered in non-breeding seasons only, the predicted impact also represented less than a 0.02 percentage point increase in the

associated baseline mortality of each SPA under both NatureScot's (Table 5.29) and the Applicant's (Table 5.30) approach.

5.4.4.46 To identify connectivity between Morven South and SPAs in the Morven Site HRA Screening Report, the Applicant applied an edge to edge measurement as advised by NatureScot (2023b). The distances used in the breeding season apportioning approach for Morven South were measured from the centre of Morven South to the centre of each SPA following the recommended approach in NatureScot (2018). As a result Morven South is located on the limit of the foraging range of puffin from a number of SPAs and this results in the breeding season apportioning values for these SPAs being zero. This is applicable to the Flamborough and Filey Coast SPA and North Caithness Cliffs SPA. There are many puffin breeding colonies within foraging range of Morven South to which impacts are apportioned , and therefore even if the SPAs excluded by using the NatureScot (2018) apportioning approach had been included (by using the Morven Site HRA Screening Report edge to edge distance measurement), only a very small proportion of the impact would be attributed to those SPAs. The populations at these two SPAs are relatively small when compared to other SPAs to which apportioning values have been estimated and therefore if an apportioning value were calculated for these SPAs it would be negligible. It is therefore highly unlikely that the predicted impact for these SPAs would surpass the 0.02 percentage point threshold defined by NatureScot (2023h). Therefore the conclusions reached for these SPAs will not be changed if a proportion of the impact associated with Morven South in the breeding season were apportioned to the SPAs based on an edge to edge distance measurement approach as used in the Morven Site HRA Screening Report.

5.4.4.47 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by puffins from adjacent breeding colonies. For puffin, this includes the Forth Islands SPA only. The conclusions reached for the puffin qualifying feature of the Forth Islands SPA are therefore considered applicable to the puffin qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

5.4.4.48 The Northumberland Marine SPA is designated to protect seas areas used by puffins from adjacent breeding colonies. This includes the Coquet Island SPA and Farne Islands SPA. The conclusions reached for the puffin qualifying feature of these SPAs are therefore considered applicable to the puffin qualifying feature of the Northumberland Marine SPA.

Fulmar

5.4.4.49 LSEs[2] in relation to displacement impacts was identified for ten SPAs which are designated to protect breeding populations of fulmar. All SPAs were identified for consideration of displacement impacts in all seasons. For all SPAs, the predicted impact represented less than a 0.02 percentage point increase in the associated baseline mortality of each SPA under both NatureScot's (Table 5.29) and the Applicant's (Table 5.30) approach.

5.4.4.50 The Northumberland Marine SPA is designated to protect seas areas used by fulmars from adjacent breeding colonies. This includes the Coquet Island SPA. The conclusions reached for the fulmar qualifying feature of this SPA are therefore considered applicable to the fulmar qualifying feature of the Northumberland Marine SPA.

Gannet

5.4.4.51 The potential for LSE[2] in relation to displacement impacts could not be ruled out for six SPAs which are designated to protect breeding populations of gannet. All but one of these was identified for consideration of displacement impacts in non-breeding seasons only. Displacement impacts in the breeding season were considered for the Forth Islands SPA due to gannets exhibiting spatial segregation in foraging areas from individual breeding colonies (Wakefield *et al.,* 2013). In addition, the potential for LSE[2] could not be ruled out for the Outer Firth of Forth and St Andrews Bay Complex SPA which is designated to protect sea areas used by gannets from adjacent SPA breeding colonies.

5.4.4.52 For SPAs for which displacement impacts were considered in non-breeding seasons only the predicted impact represented less than a 0.02 percentage point increase in the associated baseline mortality of each SPA under both NatureScot's (Table 5.29) and the Applicant's (Table 5.30) approach.

5.4.4.53 For the Forth Islands SPA for which there was connectivity with Morven South in all seasons, the impact also remained below the 0.02 percentage point threshold as defined by NatureScot for both NatureScot's (Table 5.29) and the Applicant's (Table 5.30) approach.

5.4.4.54 As mentioned in paragraph 5.4.3.10, gannets exhibit spatial segregation in foraging areas between individual breeding colonies. The predicted impacts in Table 5.29 and Table 5.30 were calculated applying the NatureScot (2018) apportioning approach which utilises three weighting factors to estimate the proportion of breeding adult birds from relevant colonies that may interact with a project site (see Volume 2, Annex 3.1: RIAA: Apportioning for more information). This approach estimated that, of the breeding adult gannets present at Morven South, approximately 87% would originate from the Forth Islands SPA. The NatureScot (2018) apportioning approach is not designed to take into account information such as that presented in Wakefield *et al.* (2013) which would suggest that the breeding adult proportion of gannets present at Morven South should be 100%. If a breeding adult proportion of 100% were to be incorporated into the calculation of impacts on the Forth Islands SPA gannet population this would provide an overall breeding season apportioning value of 50% (incorporating consideration of the adult:immature ratio and sabbatical proportions). This would in turn provide a breeding season impact of 1.3 to 3.8 birds/annum and an annual impact of 1.5 to 4.6 birds/annum, when applying NatureScot's approach. This impact would not surpass the 0.02 percentage point threshold recommended by NatureScot and would therefore not alter the conclusions against the conservation objectives for the Forth Islands SPA reached in Appendix A.

5.4.4.55 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by gannets from adjacent breeding colonies. In order to calculate the impact applicable to this SPA it is therefore necessary to total the impacts apportioned to the adjacent SPAs. For gannet, this includes the Forth Islands SPA only. The conclusions reached for the gannet qualifying feature of the Forth Islands SPA are therefore considered applicable to the gannet qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

Conclusion

5.4.4.56 The predicted increase in baseline mortality does not exceed the 0.02 percentage point threshold advised by NatureScot (2023h) for any SPA and associated qualifying feature combination using either the estimates predicted when applying NatureScot's advocated parameters (Table 5.23) or the Applicant's parameters (Table 5.24).

5.4.4.57 Impacts on the qualifying offshore ornithological features of all SPAs identified in Table 5.27 that undermine the conservation objectives of relevant SPAs will not occur as a result of displacement during the operations and maintenance phase. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A. For breeding seabird assemblage features the conclusions reached for individual qualifying features and named qualifiers are considered equally applicable to the assemblage features.

5.4.4.58 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI for any SPA and associated qualifying feature combination in relation to displacement associated with Morven South during the operations and maintenance phase. This is applicable to all SPAs and associated features included in Table 5.32.

Table 5.32: SPAs and associated features for which there will be no Adverse Effect On Integrity in relation to displacement impacts associated with Morven South alone

European site	Feature
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake
	Guillemot
	Razorbill
	Puffin
	Gannet
	Breeding seabird assemblage
Fowlsheugh SPA	Kittiwake
	Guillemot
	Razorbill
	Breeding seabird assemblage
Northumberland Marine SPA	Fulmar
	Kittiwake
	Puffin
	Razorbill
	Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	Kittiwake
	Guillemot
	Breeding seabird assemblage
Farne Islands SPA	Kittiwake
	Puffin
	Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	Kittiwake
	Guillemot
	Razorbill
	Breeding seabird assemblage
Forth Islands SPA	Gannet
	Kittiwake
	Guillemot
	Razorbill
	Puffin
	Breeding seabird assemblage
Coquet Island SPA	Fulmar
	Kittiwake
	Puffin
	Breeding seabird assemblage
Troup, Pennan and Lion’s Heads SPA	Kittiwake

European site	Feature
	Guillemot
	Breeding seabird assemblage
East Caithness Cliffs SPA	Kittiwake
	Fulmar
	Razorbill (non-breeding seasons only)
	Breeding seabird assemblage
Flamborough and Filey Coast SPA	Gannet (non-breeding seasons only)
	Kittiwake
	Puffin
	Fulmar
	Razorbill (non-breeding seasons)
	Breeding seabird assemblage
North Caithness Cliffs SPA	Fulmar
	Kittiwake
	Puffin
	Breeding seabird assemblage
Copinsay SPA	Kittiwake
	Breeding seabird assemblage
Hoy SPA	Fulmar
	Kittiwake
	Breeding seabird assemblage
Fair Isle SPA	Fulmar
	Gannet (non-breeding seasons only)
	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
West Westray SPA	Kittiwake (non-breeding seasons only)
	Breeding seabird assemblage
Noss SPA	Fulmar
	Gannet (non-breeding seasons only)
	Breeding seabird assemblage
Foula SPA	Fulmar
	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	Fulmar
	Gannet (non-breeding seasons only)
	Puffin (non-breeding seasons only)
	Breeding seabird assemblage

European site	Feature
Fetlar SPA	Fulmar
	Breeding seabird assemblage
St Kilda SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage

5.4.5 Combined collision and displacement

5.4.5.1 Two species are known to be affected by both displacement and collision during the operations and maintenance phase, these are kittiwake and gannet. For these species, impacts must be combined in order for the true magnitude of impact to be understood.

5.4.5.2 It is recognised that assessing these two potential impacts together could amount to double counting, as birds that are subject to displacement could not be subject to potential collision risk as they are already assumed to have not entered Morven South. Equally, birds estimated to be subject to collision risk mortality would not be subjected to displacement mortality as well.

5.4.5.3 Whilst the methods used to estimate collision risk and displacement mortality for gannet go some way to take this into account (through the reduction of gannet densities in collision risk modelling by 70%), a similar approach is not applied for kittiwake due to a lack of appropriate data to inform the quantification of the likely scale of required reduction. As a more refined method to consider displacement and collision together whilst reducing any double counting of impacts is not agreed with SNCBs, the precautionary and highly unlikely approach of simply summing the two impacts which is therefore likely to be an over-estimate is presented in this assessment.

5.4.5.4 Outputs from the impact assessments from collision risk (Section 5.4.2) and displacement (Section 5.4.4) combined are tabulated and presented in the following sections.

5.4.5.5 The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance.

5.4.5.6 The LSE^2 assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of the RIAA Part 1) identified that during the operation and maintenance phase, the potential for LSE^2 could not be ruled out for combined collision and displacement. This relates to the following site(s) and relevant offshore ornithological features shown in Table 5.33.

Table 5.33: European sites and associated qualifying features for which Likely Significant Effects[2] in relation to combined collision and displacement impacts associated with Morven South could not be ruled out

European site	Distance to Morven South Boundary (km)[7]	Feature
Outer Firth of Forth and St Andrews Bay Complex SPA	66	Kittiwake
		Gannet
		Breeding seabird assemblage
Fowlsheugh SPA	84	Kittiwake
		Breeding seabird assemblage
Northumberland Marine SPA	93	Kittiwake
		Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	103	Kittiwake
		Breeding seabird assemblage
Farne Islands SPA	103	Kittiwake
		Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	103	Kittiwake
		Breeding seabird assemblage
Forth Islands SPA	106	Gannet
		Kittiwake
		Breeding seabird assemblage
Coquet Island SPA	132	Kittiwake
		Breeding seabird assemblage
Troup, Pennan and Lion's Heads SPA	143	Kittiwake
		Breeding seabird assemblage
East Caithness Cliffs SPA	234	Kittiwake
		Breeding seabird assemblage
Flamborough and Filey Coast SPA	243	Gannet (non-breeding seasons only)
		Kittiwake
		Breeding seabird assemblage
North Caithness Cliffs SPA	253	Kittiwake
		Breeding seabird assemblage
Copinsay SPA	271	Kittiwake
		Breeding seabird assemblage
Hoy SPA	278	Kittiwake
		Breeding seabird assemblage

[7] Measured from the edge of Morven South to the edge of the SPA

European site	Distance to Morven South Boundary (km)[7]	Feature
Fair Isle SPA	318	Gannet (non-breeding seasons only)
		Breeding seabird assemblage
West Westray SPA	318	Kittiwake (non-breeding seasons only)
		Breeding seabird assemblage
Noss SPA	385	Gannet (non-breeding seasons only)
		Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	425	Gannet (non-breeding seasons only)
		Breeding seabird assemblage
St Kilda SPA	473	Gannet (non-breeding seasons only)
		Breeding seabird assemblage

5.4.5.7 The MDS considered for the assessment of displacement is shown in Table 5.28 with the maximum design scenario for collision shown in Table 5.21. Designed in mitigation measures for collision are provided in Table 5.22. There are no designed-in mitigation measures associated with Morven South relevant to displacement.

Operation and maintenance phase

5.4.5.8 The assessment for combined collision and displacement impacts utilises the information presented in Section 5.4.2 (collision risk) and Section 5.4.4 (displacement) for the two contributory impacts. For detailed methodologies for each impact please see Volume 3, Appendix 11.2 Offshore Ornithology Collision Risk Modelling Report and Volume 3, Annex 11.4: Offshore Ornithology Displacement Modelling Report (Matrix Approach), of the EIA Report.

5.4.5.9 The predicted mortality for each of the qualifying features identified in Table 5.33 apportioned to the relevant SPA is presented on a seasonal basis in Table 5.34 using the approach to collision and displacement analyses advocated by NatureScot and in Table 5.35 using the approaches advocated by the Applicant. The predicted annual apportioned impact for each SPA is compared against the baseline mortality of the most recent SPA population as provided in Table 5.8.

5.4.5.10 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Table 5.34: Calculation of effect from Morven South alone in relation to collision and displacement combined based on the parameters advocated by NatureScot (B = breeding season, Post = post-breeding season, Pre = pre-breeding season)

Feature	European site	Apportioned collision risk estimate (no. of birds)			Apportioned displacement mortality (no. of birds)			Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	Pre	B	Post	Pre		
Gannet (Displacement: 1% breeding season mortality rate; 1% non-breeding season mortality rate; Collision: flight speed 14.9m/s, avoidance rate 0.9929, 70% macro-avoidance applied to pre- and post-breeding seasons)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.5.19							
	Forth Islands SPA	5.5	0.0	0.1	1.1	0.2	0.1	6.9	0.005
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.1	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.0	<0.001
	Noss SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.1	<0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.1	0.0	0.1	<0.001
	St Kilda SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.0	<0.001
Gannet (Displacement: 3% breeding season	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.5.19							

Feature	European site	Apportioned collision risk estimate (no. of birds)			Apportioned displacement mortality (no. of birds)			Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	Pre	B	Post	Pre		
mortality rate; 3% non-breeding season mortality rate; Collision: flight speed 14.9m/s, avoidance rate 0.9929, 70% macro-avoidance applied to pre- and post-breeding seasons)	Forth Islands SPA	5.5	0.0	0.1	3.3	0.5	0.3	9.6	0.006
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.1	0.1	0.2	0.001
	Fair Isle SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.1	0.001
	Noss SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.1	0.1	0.1	<0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.2	0.1	0.3	0.001
	St Kilda SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.1	<0.001
Kittiwake (Displacement: 1% breeding season mortality rate; 1% non-breeding season mortality rate; Collision: flight speed 13.1 m/s, avoidance rate 0.9929)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.5.13							
	Fowlsheugh SPA	0.7	0.0	0.0	0.1	0.0	0.0	0.9	0.003
	Northumberland Marine SPA	See paragraph 5.4.5.14							
	Buchan Ness to Collieston Coast SPA	0.4	0.0	0.0	0.1	0.0	0.0	0.5	0.002

Feature	European site	Apportioned collision risk estimate (no. of birds)			Apportioned displacement mortality (no. of birds)			Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	Pre	B	Post	Pre		
	Farne Islands SPA	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.002
	St Abb`s Head to Fast Castle SPA	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.003
	Forth Islands SPA	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.002
	Coquet Island SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.002
	Troup, Pennan and Lion's Heads SPA	0.2	0.0	0.1	0.0	0.0	0.0	0.3	0.002
	East Caithness Cliffs SPA	0.2	0.1	0.2	0.0	0.0	0.0	0.5	0.001
	Flamborough and Filey Coast SPA	0.4	0.1	0.1	0.1	0.0	0.0	0.8	0.001
	North Caithness Cliffs SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.001
	Copinsay SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001
	Hoy SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001
	West Westray SPA (non-breeding seasons only)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.002
Kittiwake (Displacement: 3% breeding season mortality rate; 3% non-breeding season mortality rate; Collision: flight	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.5.13							
	Fowlsheugh SPA	0.7	0.0	0.0	0.4	0.0	0.0	1.2	0.004
	Northumberland Marine SPA	See paragraph 5.4.5.14							

Feature	European site	Apportioned collision risk estimate (no. of birds)			Apportioned displacement mortality (no. of birds)			Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	Pre	B	Post	Pre		
speed 13.1 m/s, avoidance rate 0.9929)	Buchan Ness to Collieston Coast SPA	0.4	0.0	0.0	0.2	0.0	0.0	0.7	0.003
	Farne Islands SPA	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.002
	St Abb`s Head to Fast Castle SPA	0.2	0.0	0.0	0.1	0.0	0.0	0.4	0.004
	Forth Islands SPA	0.2	0.0	0.0	0.1	0.0	0.0	0.3	0.003
	Coquet Island SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.002
	Troup, Pennan and Lion's Heads SPA	0.2	0.0	0.1	0.1	0.1	0.0	0.4	0.002
	East Caithness Cliffs SPA	0.2	0.1	0.2	0.1	0.1	0.1	0.7	0.001
	Flamborough and Filey Coast SPA	0.4	0.1	0.1	0.2	0.1	0.1	1.1	0.001
	North Caithness Cliffs SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.001
	Copinsay SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001
	Hoy SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001
	West Westray SPA (non-breeding seasons only)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.003

Table 5.35: Calculation of effect from the Morven South alone in relation to collision and displacement combined based on the parameters advocated by the Applicant (B = breeding season, Post = post-breeding season, Pre = pre-breeding season)

Feature	European site	Apportioned collision risk estimate (no. of birds)			Apportioned displacement mortality (no. of birds)			Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	Pre	B	Post	Pre		
Gannet (Displacement: 1% mortality rate – all seasons; Collision: flight speed 13.33m/s, avoidance rate 0.9929, 70% macro-avoidance applied to all seasons)	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.5.19							
	Forth Islands SPA	2.5	0.0	0.1	1.9	0.2	0.1	4.8	0.003
	Flamborough and Filey Coast SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.1	<0.001
	Fair Isle SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.0	<0.001
	Noss SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.1	<0.001
	Hermaness, Saxa Vord and Valla Field SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.1	0.0	0.1	<0.001
	St Kilda SPA (non-breeding seasons only)	n/a	0.0	0.0	n/a	0.0	0.0	0.0	<0.001
Kittiwake (Displacement: 1% mortality rate – all seasons; Collision:	Outer Firth of Forth and St Andrews Bay Complex SPA	See paragraph 5.4.5.13							
	Fowlsheugh SPA	0.3	0.0	0.0	0.2	0.0	0.0	0.5	0.002

Feature	European site	Apportioned collision risk estimate (no. of birds)			Apportioned displacement mortality (no. of birds)			Total apportioned impact (no. of birds)	Increase in baseline mortality (percentage point change)
		B	Post	Pre	B	Post	Pre		
flight speed 8.71 m/s, avoidance rate 0.9979)	Northumberland Marine SPA	See paragraph 5.4.5.14							
	Buchan Ness to Collieston Coast SPA	0.1	0.0	0.0	0.1	0.0	0.0	0.3	0.001
	Farne Islands SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.001
	St Abb`s Head to Fast Castle SPA	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.001
	Forth Islands SPA	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.001
	Coquet Island SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001
	Troup, Pennan and Lion's Heads SPA	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.001
	East Caithness Cliffs SPA	0.1	0.0	0.0	0.0	0.0	0.0	0.2	<0.001
	Flamborough and Filey Coast SPA	0.1	0.0	0.0	0.1	0.0	0.0	0.4	<0.001
	North Caithness Cliffs SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.001
	Copinsay SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.001
	Hoy SPA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.001
	West Westray SPA (non-breeding seasons only)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001

Kittiwake

5.4.5.11 The potential for LSE[2] in relation to combined collision and displacement could not be ruled out for kittiwake as a qualifying feature at 13 breeding colony SPAs. Of these, all but one (West Westray SPA) require consideration in all seasons with the West Westray SPA requiring consideration in non-breeding seasons only. In addition, the potential for LSE[2] could not be ruled out for the Outer Firth of Forth and St Andrews Bay Complex SPA and Northumberland Marine SPAs which are designated to protect sea areas used by kittiwakes from adjacent SPA breeding colonies.

5.4.5.12 For all breeding colony SPAs the predicted impact represented less than a 0.02 percentage point increase in the associated baseline mortality of each SPA under both NatureScot's (Table 5.34) and the Applicant's (Table 5.35) approach.

5.4.5.13 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by kittiwakes from adjacent breeding colonies. For kittiwake, this includes the Forth Islands SPA only. The conclusions reached for the kittiwake qualifying feature of the Forth Islands SPA are therefore considered applicable to the kittiwake qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

5.4.5.14 The Northumberland Marine SPA is designated to protect seas areas used by kittiwakes from adjacent breeding colonies. This includes the Coquet Island SPA and Farne Islands SPA. The conclusions reached for the kittiwake qualifying feature of these SPAs are therefore considered applicable to the kittiwake qualifying feature of the Northumberland Marine SPA.

Gannet

5.4.5.15 The potential for LSE[2] in relation to combined collision and displacement impacts could not be ruled out for six SPAs which are designated to protect breeding populations of gannet (Table 5.35). All but one of these was identified for consideration of combined collision and displacement impacts in non-breeding seasons only. Combined collision and displacement impacts in the breeding season were considered for the Forth Islands SPA due to gannets exhibiting spatial segregation in foraging areas from individual breeding colonies (Wakefield *et al.,* 2013). In addition, the potential for LSE[2] could not be ruled out for the Outer Firth of Forth and St Andrews Bay Complex SPA which is designated to protect sea areas used by gannets from adjacent SPA breeding colonies.

5.4.5.16 For SPAs for which combined collision and displacement impacts were considered in non-breeding seasons only, the predicted impact represented less than a 0.02 percentage point increase in the associated baseline mortality of each SPA under both NatureScot's (Table 5.34) and the Applicant's (Table 5.35) approach.

5.4.5.17 For the Forth Islands SPA for which there was connectivity with Morven South in all seasons, the impact also remained below the 0.02 percentage point threshold as defined by NatureScot for both NatureScot's (Table 5.34) and the Applicant's (Table 5.35) approach.

5.4.5.18 As mentioned in paragraph 5.4.3.10, gannets exhibit spatial segregation in foraging areas between individual breeding colonies. The predicted impacts in Table 5.34 and Table 5.35 were calculated applying the NatureScot (2018) apportioning approach which utilises three weighting factors to estimate the proportion of breeding adult birds from relevant colonies that may interact with a project site (see Volume 2, Annex 3.1: RIAA: Apportioning for more information). This approach estimated that, of the breeding adult gannets present at Morven South, approximately 87% would originate from the Forth Islands SPA. The NatureScot (2018) apportioning approach is not designed to take into account information such as that presented in Wakefield *et al.,* (2013) which would suggest that the breeding adult proportion of gannets present at Morven South should be 100%. If a breeding adult proportion of 100% were to be incorporated into the calculation of impacts on the Forth Islands SPA gannet population this would provide an overall breeding season apportioning value of 50% (incorporating consideration of the adult:immature ratio and sabbatical proportions). This

would in turn provide a breeding season impact of 7.6 birds/annum and an annual impact of 7.9 birds/annum, when applying NatureScot's position. This impact would not surpass the 0.02 percentage point threshold recommended by NatureScot and would therefore not alter the conclusions against the conservation objectives for the Forth Islands SPA reached in Appendix A.

5.4.5.19 The Outer Firth of Forth and St Andrews Bay Complex SPA is designated to protect seas areas used by gannets from adjacent breeding colonies. For gannet, this includes the Forth Islands SPA only. The conclusions reached for the gannet qualifying feature of the Forth Islands SPA are therefore considered applicable to the gannet qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA.

Conclusion

5.4.5.20 The predicted increase in baseline mortality does not exceed the 0.02 percentage point threshold advised by NatureScot (2023h) for any SPA and associated qualifying feature combination using either the estimates predicted when applying NatureScot's advocated parameters (Table 5.34) or the Applicant's parameters (Table 5.35).

5.4.5.21 Impacts on the qualifying offshore ornithological features of all SPAs identified in Table 5.33 that undermine the conservation objectives of relevant SPAs will not occur as a result of combined collision and displacement impacts during the operation and maintenance phase. The potential effects of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A. For breeding seabird assemblage features the conclusions reached for individual qualifying features and named qualifiers are considered equally applicable to the assemblage features.

5.4.5.22 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI for any SPA and associated qualifying feature combination in relation to combined collision and displacement associated with Morven South during the operations and maintenance phase. This is applicable to all SPAs and associated features included in Table 5.32.

Table 5.36: SPAs and associated features for which there will be no Adverse Effect On Integrity in relation to combined collision and displacement impacts associated with Morven South alone

European site	Feature
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake
	Gannet
	Breeding seabird assemblage
Fowlsheugh SPA	Kittiwake
	Breeding seabird assemblage
Northumberland Marine SPA	Kittiwake
	Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	Kittiwake
	Breeding seabird assemblage
Farne Islands SPA	Kittiwake
	Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	Kittiwake
	Breeding seabird assemblage
Forth Islands SPA	Gannet

European site	Feature
	Kittiwake
	Breeding seabird assemblage
Coquet Island SPA	Kittiwake
	Breeding seabird assemblage
Troup, Pennan and Lion's Heads SPA	Kittiwake
	Breeding seabird assemblage
East Caithness Cliffs SPA	Kittiwake
	Breeding seabird assemblage
Flamborough and Filey Coast SPA	Gannet (non-breeding seasons only)
	Kittiwake
	Breeding seabird assemblage
North Caithness Cliffs SPA	Kittiwake
	Breeding seabird assemblage
Copinsay SPA	Kittiwake
	Breeding seabird assemblage
Hoy SPA	Kittiwake
	Breeding seabird assemblage
Fair Isle SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage
West Westray SPA	Kittiwake (non-breeding seasons only)
	Breeding seabird assemblage
Noss SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage
St Kilda SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage

5.4.6 Barrier effects

5.4.6.1 JNCC et al. (2022) defines barrier effects as 'A barrier is a physical factor that limits the migration, or free movement of individuals or populations, thus requiring them to divert from their intended path in order to reach their original destination. This effect is expected to increase the energy expenditure of birds if they have to fly around the area in question in order to reach their goal'.

5.4.6.2 Barrier effects are typically considered to affect birds in flight only, either whilst they are on migration between breeding and wintering areas (for example) or between a breeding colony and a foraging area. The latter of these scenarios may impose an additional energetic cost to movements at a key period in the annual cycle when seabirds are making daily commutes

between foraging grounds at sea and breeding sites. Additional energetic costs could have long-term implications for individuals, impacting bird fitness (breeding productivity and survival) and for populations.

5.4.6.3 Barrier effects are considered to be less impactful when affecting migratory flights as avoidance of a single wind farm may be trivial relative to the total length and cost of the journey.

5.4.6.4 For breeding seabirds, NatureScot (2023f) consider barrier effects alongside displacement as "distributional responses". This is because it can be difficult to distinguish barrier effects from the effects of displacement for breeding seabirds foraging in the region. NatureScot (2023f) advise that distributional responses are assessed using the matrix approach, and therefore for breeding seabirds, no separate assessment of barrier to movement is carried out, with impacts considered to be included in the assessments carried out in Section 5.4.4. This section therefore only considers the impact of the barrier to movement during migratory seasons.

5.4.6.5 The LSE[2] assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1) identified that during the operation and maintenance phase, the potential for LSE[2] could not be ruled out for barrier effects. This relates to the following site(s) and relevant offshore ornithological features shown in Table 5.37.

Table 5.37: European sites and associated qualifying features for which Likely Significant Effects[2] in relation to barrier effects associated with Morven South could not be ruled out

European site	Distance to Morven South Boundary (km)[8]	Feature
Outer Firth of Forth and St Andrews Bay Complex SPA	66	Kittiwake
		Guillemot
		Razorbill
		Puffin
		Gannet
		Breeding seabird assemblage
Fowlsheugh SPA	84	Kittiwake
		Guillemot
		Razorbill
		Breeding seabird assemblage
Northumberland Marine SPA	93	Kittiwake
		Puffin
		Razorbill
		Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	103	Kittiwake
		Breeding seabird assemblage

[8] Measured from the edge of Morven South to the edge of the SPA

European site	Distance to Morven South Boundary (km)[8]	Feature
Farne Islands SPA	103	Kittiwake
		Puffin
		Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	103	Kittiwake
		Razorbill
		Breeding seabird assemblage
Forth Islands SPA	106	Gannet
		Kittiwake
		Razorbill
		Puffin
		Breeding seabird assemblage
Coquet Island SPA	132	Kittiwake
		Puffin
		Breeding seabird assemblage
Troup, Pennan and Lion's Heads SPA	143	Kittiwake
East Caithness Cliffs SPA	234	Kittiwake
		Razorbill (non-breeding seasons only)
		Breeding seabird assemblage
Flamborough and Filey Coast SPA	243	Gannet (non-breeding seasons only)
		Kittiwake
		Puffin
		Razorbill (non-breeding seasons)
		Breeding seabird assemblage
North Caithness Cliffs SPA	253	Kittiwake
		Puffin
		Breeding seabird assemblage
Copinsay SPA	271	Kittiwake
		Breeding seabird assemblage
Hoy SPA	278	Kittiwake
		Breeding seabird assemblage
Fair Isle SPA	318	Gannet (non-breeding seasons only)
		Puffin (non-breeding seasons only)

European site	Distance to Morven South Boundary (km)[8]	Feature
		Breeding seabird assemblage
West Westray SPA	318	Kittiwake (non-breeding season)
		Breeding seabird assemblage
Noss SPA	385	Gannet (non-breeding seasons only)
		Breeding seabird assemblage
Foula SPA	389	Puffin (non-breeding seasons only)
		Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	425	Gannet (non-breeding seasons only)
		Puffin (non-breeding seasons only)
		Breeding seabird assemblage
St Kilda SPA	473	Gannet (non-breeding seasons only)

5.4.6.6 The MDS considered for the assessment of barrier effects is shown in Table 5.38. There are no designed-in measures associated with Morven South relevant to barrier effects.

Table 5.38: Maximum Design Scenario considered for the assessment of potential impacts to offshore ornithological features due to barrier effects during the operations and maintenance phase

Project phase	MDS	Justification
Operation and maintenance	• Presence of up to 95 wind turbines, five OSPs within the Morven South Boundary of 347.7km^2; • Minimum spacing of 1,000 m between rows of wind turbines.	Maximum density of wind turbines and structures across Morven South, which maximises the potential barrier to foraging grounds and migration routes for bird species.

Operation and maintenance phase

5.4.6.7 The diversion of flight lines as a result of a barrier effect created by the presence of Morven South for migratory birds is considered less of an impact than for those barrier effects to daily foraging flights. A number of studies have calculated that the costs of one-off avoidances during migration were small, accounting for less than 2% of available fat reserves (e.g. Masden *et al.,* 2010; Speakman *et al.,* 2009).

5.4.6.8 Masden *et al.* (2010) found additional costs, expressed in relation to typical daily energetic expenditures, to be the highest per unit flight for seabirds with high wing loadings, such as gannets. For example, results suggest that increasing gannet flight distance by 2km increases energetic cost by 1.25%. A 10km increase may result in a 4.50% increase in energy

expenditure. However, this is based on a foraging range of 160km, where 10km represents a 6.25% increase in distance flown. Scaling this to the mean maximum plus 1 SD foraging range of 709km (Woodward *et al.,* 2019), an additional flight distance of 10km (4.5%) represents a scaled 1.02% increase in expenditure. This minimal increase in energy expenditure is unlikely to result in notable mortalities. Most importantly, Masden *et al.* (2010) found costs of extra flight to avoid a wind farm to appear to be much less than those imposed by low food abundance or adverse weather, although such costs will be additive to these.

Conclusion

5.4.6.9 Impacts on the qualifying offshore ornithological features of all SPAs identified in Table 5.37 that undermine the conservation objectives of the SPA will not occur as a result of barrier effects during the operation and maintenance phase. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.4.6.10 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI for any SPA and associated qualifying feature combination in relation to barrier effects associated with Morven South during the operations and maintenance phase. This is applicable to all SPAs and associated features included in Table 5.39.

Table 5.39: SPAs and associated features for which there will be no Adverse Effects On Integrity in relation to barrier effects associated with Morven South alone

European site	Feature
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake
	Guillemot
	Razorbill
	Puffin
	Gannet
	Breeding seabird assemblage
Fowlsheugh SPA	Kittiwake
	Guillemot
	Razorbill
	Breeding seabird assemblage
Northumberland Marine SPA	Kittiwake
	Puffin
	Razorbill
	Breeding seabird assemblage
Buchan Ness to Collieston Coast SPA	Kittiwake
	Breeding seabird assemblage
Farne Islands SPA	Kittiwake
	Puffin
	Breeding seabird assemblage
St Abb`s Head to Fast Castle SPA	Kittiwake
	Razorbill
	Breeding seabird assemblage

European site	Feature
Forth Islands SPA	Gannet
	Kittiwake
	Razorbill
	Puffin
	Breeding seabird assemblage
Coquet Island SPA	Kittiwake
	Puffin
	Breeding seabird assemblage
Troup, Pennan and Lion's Heads SPA	Kittiwake
East Caithness Cliffs SPA	Kittiwake
	Razorbill (non-breeding seasons only)
	Breeding seabird assemblage
Flamborough and Filey Coast SPA	Gannet (non-breeding seasons only)
	Kittiwake
	Puffin
	Razorbill (non-breeding seasons)
	Breeding seabird assemblage
North Caithness Cliffs SPA	Kittiwake
	Puffin
	Breeding seabird assemblage
Copinsay SPA	Kittiwake
	Breeding seabird assemblage
Hoy SPA	Kittiwake
	Breeding seabird assemblage
Fair Isle SPA	Gannet (non-breeding seasons only)
	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
West Westray SPA	Kittiwake (non-breeding season)
	Breeding seabird assemblage
Noss SPA	Gannet (non-breeding seasons only)
	Breeding seabird assemblage
Foula SPA	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	Gannet (non-breeding seasons only)
	Puffin (non-breeding seasons only)
	Breeding seabird assemblage
St Kilda SPA	Gannet (non-breeding seasons only)

5.4.7 Attraction to light

5.4.7.1 There is the potential for artificial light associated with offshore wind farms to impact birds at the construction, operations and maintenance, and decommissioning phases.

5.4.7.2 There are significant knowledge gaps regarding the effects of artificial lighting associated with offshore wind farms on seabirds. These include: the range over which light attraction may occur (and therefore the size of the light catch basin for wind farms and related activities or infrastructure); the extent to which light attraction is exacerbated by particular meteorological conditions (e.g. fog, rain); the influence of wavelength and pattern of illumination (flashing/steady); and the extent to which light attraction differentially affects adults and juveniles and for how long after fledging juveniles may remain particularly susceptible to light attraction.

5.4.7.3 Whilst Deakin *et al.* (2022) provides a comprehensive review of seabird attraction to artificial light, they fail to account for the characteristics of lighting associated with offshore wind farms. The review highlights the attraction of seabirds to light sources such as village lights, lighthouses, and hydrocarbon platforms. It is notable that the intensity of light associated with these sources is significantly greater than that associated with an offshore wind farm. This was highlighted by Furness (2018), who determined that lighting on wind turbines is in orders of magnitude lower than light intensities produced by ports, towns, lighthouses, oil and gas platforms, or ships. Furness (2018) concluded that the lights associated with offshore wind turbines are unlikely to have any detectable effect on birds.

5.4.7.4 Additionally, Furness (2018) found that phototaxis of seabirds only occurs over short distances (hundreds of metres) in response to bright white light close to colonies of these species. It is not seen over large distances or with the moderate light levels used in obstruction or navigation lighting. In addition, no evidence was found to suggest that obstruction or navigation lights affect ability of marine birds to feed at night, or attract marine prey animals to aggregate, or that they could affect predation risk for nocturnal migrant birds. No evidence was found to suggest that obstruction or navigation lights cause displacement of marine birds due to avoidance of light.

5.4.7.5 Nevertheless, it is anticipated that lighting associated with Morven South will meet minimum requirements, namely as set out in the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Recommendation O-117 on 'The Marking of Offshore Wind Farms' for navigation lighting and by the Civil Aviation Authority in the Air Navigation Orders (CAP 393 and guidance in CAP 764). In keeping with the minimum legal requirements, this will minimise the potential risks of birds becoming attracted to or disorientated by turbines at night or in poor weather.

5.4.7.6 Appropriate lighting, in line with MCA (2021) guidance, will ensure the offshore structures are visible for search and rescue and emergency response procedures. In addition, marine navigational lighting for the OSS will be fitted at the platform level on significant peripheral structures.

5.4.7.7 In terms of attraction to lit structures, the MDS for Morven South would involve 95 turbines and the maximum number of ancillary structures. For maximum visibility, each structure would be fitted with lighting requirements for aviation and shipping. All project phases are considered as the number of turbines will gradually increase or decrease respectively during the construction and decommissioning phases. The indicative lighting design is below:

- Flashing yellow 5s lights on Significant Peripheral Structures with nominal 5nm range, 360° visibility, located between 6m and 30m above HAT, all synchronised;
- Flashing yellow 2.5s lights on Intermediate Peripheral Structures (IPS) with nominal 2nm range, 360° visibility, located between 6m and 30m above HAT;
- For ID markers – low level baffled lighting with mean luminance between 5cd/m² and 10cd/m^2;

- Aviation warning lights – red 2,000cd dimmable to 200cd when visibility greater than 5km at night, off during day, 360° visibility, synchronised flashing Morse "W";
- Search and Rescue (SAR) lights – red 200cd, off unless requested by MCA, steady when in use, 360° visibility;
- Heli-hoist lights – low intensity green light, off when not safe for heli-hoist, flashing when being prepared, steady when ready, 360° visibility.

5.4.7.8 The LSE[2] assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1) identified that during all project phases, the potential for LSE[2] could not be ruled out for attraction to light. This relates to the following site(s) and relevant offshore ornithological features shown in Table 5.40.

Table 5.40: European sites and associated qualifying features for which Likely Significant Effects[2] in relation to attraction to light associated with Morven South could not be ruled out

European site	Distance to Morven South Boundary (km)[9]	Feature
Northumberland Marine SPA	93	Fulmar
		Breeding seabird assemblage
Coquet Island SPA	132	Fulmar
		Breeding seabird assemblage
East Caithness Cliffs SPA	234	Fulmar
		Breeding seabird assemblage
Flamborough and Filey Coast SPA	243	Fulmar
		Breeding seabird assemblage
North Caithness Cliffs SPA	253	Fulmar
		Breeding seabird assemblage
Hoy SPA	278	Fulmar
		Breeding seabird assemblage
Fair Isle SPA	318	Fulmar
		Breeding seabird assemblage
Noss SPA	385	Fulmar
		Breeding seabird assemblage
Foula SPA	389	Fulmar
		Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	425	Fulmar
		Breeding seabird assemblage
Fetlar SPA	432	Fulmar
		Breeding seabird assemblage

[9] Measured from the edge of Morven South to the edge of the SPA

5.4.7.9 The MDS and designed-in measures considered for the assessment of attraction to light are shown in Table 5.41 and Table 5.42, respectively.

Table 5.41: Maximum Design Scenario considered for the assessment of potential impacts to offshore ornithological features due to attraction to light during the all project phases

Project phase	MDS	Justification
Construction	• Up to a total of 41 construction vessels on site at any one time.	Maximum density of wind turbines and structures across Morven South, offering the maximum amount of light transmission to which birds may be attracted.
Operation and maintenance	• Presence of up to 95 operating wind turbines and five OSPs occupying the Morven South Boundary of up to 347.7km^2. • Minimum spacing of 1000m between wind turbines. • Up to a total of 15 operations and maintenance vessels on site at any one time.	
Decommissioning	• Vessels used for a range of decommissioning activities such as removal of foundations.	

Table 5.42: Designed-in measures considered for the assessment of potential impacts to offshore ornithological features to attraction to light during the all project phases

Reference number	Designed-in measures	Justification	Primary or tertiary
MM-34	Development of and adherence to a Lighting and Marking Plan (LMP).	To reduce impacts on offshore ornithology: The LMP will detail compliance with legal requirements including IALA G1162 (IALA, 2021), and will assist with SAR operations and will ensure that appropriate lighting and marking of wind turbines and offshore substation platforms will be established in accordance with Civil Aviation Authority (CAA) regulations and guidance (CAP 393 and the Air Navigation Order (ANO)) and in accordance with the Civil Aviation Authority CAA and the Defence Infrastructure Organisation (DIO), which is responsible for the safeguarding of	Tertiary

Reference number	Designed-in measures	Justification	Primary or tertiary
		Ministry of Defence (MOD) assets. Secured through the LMP. The approach to Aids to Navigation will be outlined in the LMP. Adopting the LMP, and therefore reducing lighting to be compliant with MM-34, will provide the minimum amount and intensity of lighting that Morven South can legally have whilst remaining compliant with mandatory Health and Safety lighting requirements.	

All project phases

5.4.7.10 Precise numbers of marine birds moving through Morven South are unknown, but in relation to national or international populations, proportions travelling through Morven South during hours of darkness are likely to be low (see Wade *et al.* (2016) for determination of nocturnal activity rates), particularly as most flights would be below potential collision height. The magnitude of impact is therefore considered qualitatively for all receptors.

5.4.7.11 The nature of lighting at Morven South is not considered comparable to the light sources associated with significant attraction events (e.g. those that may occur at lighthouses or other significant light sources), representing a much lower risk due to lower light intensity and the colour of the light.

5.4.7.12 There is no evidence from any existing offshore wind farms that suggests that mass attraction events occur as a result of the typical navigational and aviation lighting for offshore wind farms. Furness (2018) concluded that the evidence indicates that obstruction or navigation lights on turbines will have no significant effects on marine birds.

5.4.7.13 Fulmar have high flight at night activity (four out of five in Wade *et al.*, 2016), which is likely due to the long duration of foraging trips undertaken by the species. However, very few flights are likely to be at risk height (Wade *et al.*, 2016). Wade *et al.* (2016) give an overall collision risk vulnerability score of zero for fulmar.

5.4.7.14 There is limited evidence for the effects of artificial lighting on fulmar including in relation to lighting associated with offshore wind farms. Dupuis *et al.* (2021) state that they did not find any evidence in the literature that the lights of wind turbine fields attract fulmar. Atchoi *et al.* (2020) also state that, to the best of their knowledge, surface-nesting petrels such as fulmars or albatrosses have not been recorded at fallout events nor in light attraction events at sea.

5.4.7.15 There is evidence for Procellariiformes being attracted to and/or disorientated by lit fishing vessels, with significant potential negative impacts (e.g. Arcos and Oro, 2002; Montevecchi, 2006; Ronconi *et al.*, 2015). However, Dupuis *et al.* (2021) argue that apparent seabird attraction to fishing boat lights may actually be primarily due to olfaction, with birds more attracted by the fishing activity itself than by the light.

5.4.7.16 The Scottish Government's review of offshore wind farm impacts on petrels and shearwaters (Deakin *et al.*, 2022) also highlights the potential for attraction in nocturnally active Procellariiformes, including fulmar, particularly around offshore infrastructure.

Conclusion

5.4.7.17 Impacts on the qualifying offshore ornithological features of all SPAs identified in Table 5.40 that undermine the associated conservation objectives of each SPA will not occur as a result of attraction to light during all project phases. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.4.7.18 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI for any SPA and associated qualifying feature combination in relation to attraction to light associated with Morven South during all project phases. This is applicable to all SPAs and associated features included in Table 5.43.

Table 5.43: SPAs and associated features for which there will be no Adverse Effects On Integrity in relation to attraction to light associated with Morven South alone

European site	Feature
Northumberland Marine SPA	Fulmar
	Breeding seabird assemblage
Coquet Island SPA	Fulmar
	Breeding seabird assemblage
East Caithness Cliffs SPA	Fulmar
	Breeding seabird assemblage
Flamborough and Filey Coast SPA	Fulmar
	Breeding seabird assemblage
North Caithness Cliffs SPA	Fulmar
	Breeding seabird assemblage
Hoy SPA	Fulmar
	Breeding seabird assemblage
Fair Isle SPA	Fulmar
	Breeding seabird assemblage
Noss SPA	Fulmar
	Breeding seabird assemblage
Foula SPA	Fulmar
	Breeding seabird assemblage
Hermaness, Saxa Vord and Valla Field SPA	Fulmar
	Breeding seabird assemblage
Fetlar SPA	Fulmar
	Breeding seabird assemblage

5.5 Assessment of the adverse effects of Morven South in-combination with other plans and projects

5.5.1.1 The other plans and projects that have been identified as having the potential for in-combination effects are presented in Figure 5.14 and Table 5.44.

5.5.1.2 The potential impacts that have been considered in the in-combination assessment is a subset of those considered for the Morven South alone assessment. This is because some of the potential impacts identified and assessed for the Morven South alone assessment are localised and temporary in nature or have been assessed to have negligible adverse significance. It is considered therefore, that these potential impacts have limited or no potential to interact with similar changes associated with other plans or projects. These have therefore been screened out of the whole project, Morven Programme and in-combination effects assessment. These impacts include:

- direct temporary habitat loss/disturbance;
- changes in prey availability due to temporary habitat loss/disturbance;
- barrier effects;
- attraction to light.

5.5.1.3 Similarly, some of the potential impacts considered within the Morven South alone assessment are specific to a particular phase of development (e.g. construction, operations and maintenance, or decommissioning). Where in-combination effects with other plans or projects only have potential to occur where there is spatial or temporal overlap with Morven South during certain phases of development, impacts associated with a certain phase may be omitted from further consideration where no plans or projects have been identified that have the potential for in-combination effects during this period. The impacts and associated species to be considered in the in-combination assessments are therefore:

- collision risk;
- displacement;
- combined collision and displacement.

5.5.1.4 The projects included in Figure 5.14 and Table 5.44 are those for which quantitative information was available six months prior to the application submission date for Morven South was available (see section 4.6) to inform the in-combination assessments for these effects.

5.5.1.5 There are no collision impacts associated with the MHPGC Project or MBAGC Project. Similarly, there are no displacement impacts associated with the MHPGC Project or MBAGC Project. Whilst there may be disturbance effects associated with the MHPGC Project or MBAGC Project such impacts will be short-term in nature and highly unlikely to be detectable and will not contribute to any existing in-combination impact. The whole project assessments associated with Scenarios 1 and 2 (see paragraph 4.6.1.2) are therefore not required and consideration of the MHPGC Project or MBAGC Project as part of Scenario 3 is also not required. Scenario 3 will therefore incorporate Morven South and Morven North only.

5.5.1.6 Some of the projects considered in-combination only have potential to impact species during a specific season (e.g. breeding or non-breeding seasons). During the breeding season, projects within a species' foraging range were considered as there is the potential for individuals to have connectivity with Morven South and the other plans/projects specific to each species. Foraging ranges presented in Volume 3, Annex 11.1: Offshore Ornithology Baseline Characterisation Report, of the EIA Report, have been used (Woodward *et al*., 2019). Within the non-breeding season all developments within the BDMPS area relevant to a species (Furness, 2015) are included, with the exception of guillemot and herring gull where the mean-maximum foraging range is applied following NatureScot guidance in relation to identifying connectivity (NatureScot, 2023b). As such, all 'breeding season' projects are also included within the non-breeding period given that the BDMPS areas defined by Furness (2015) are

larger than the breeding foraging ranges. Additional projects not included within a breeding season assessment may be included within the non-breeding season assessment.

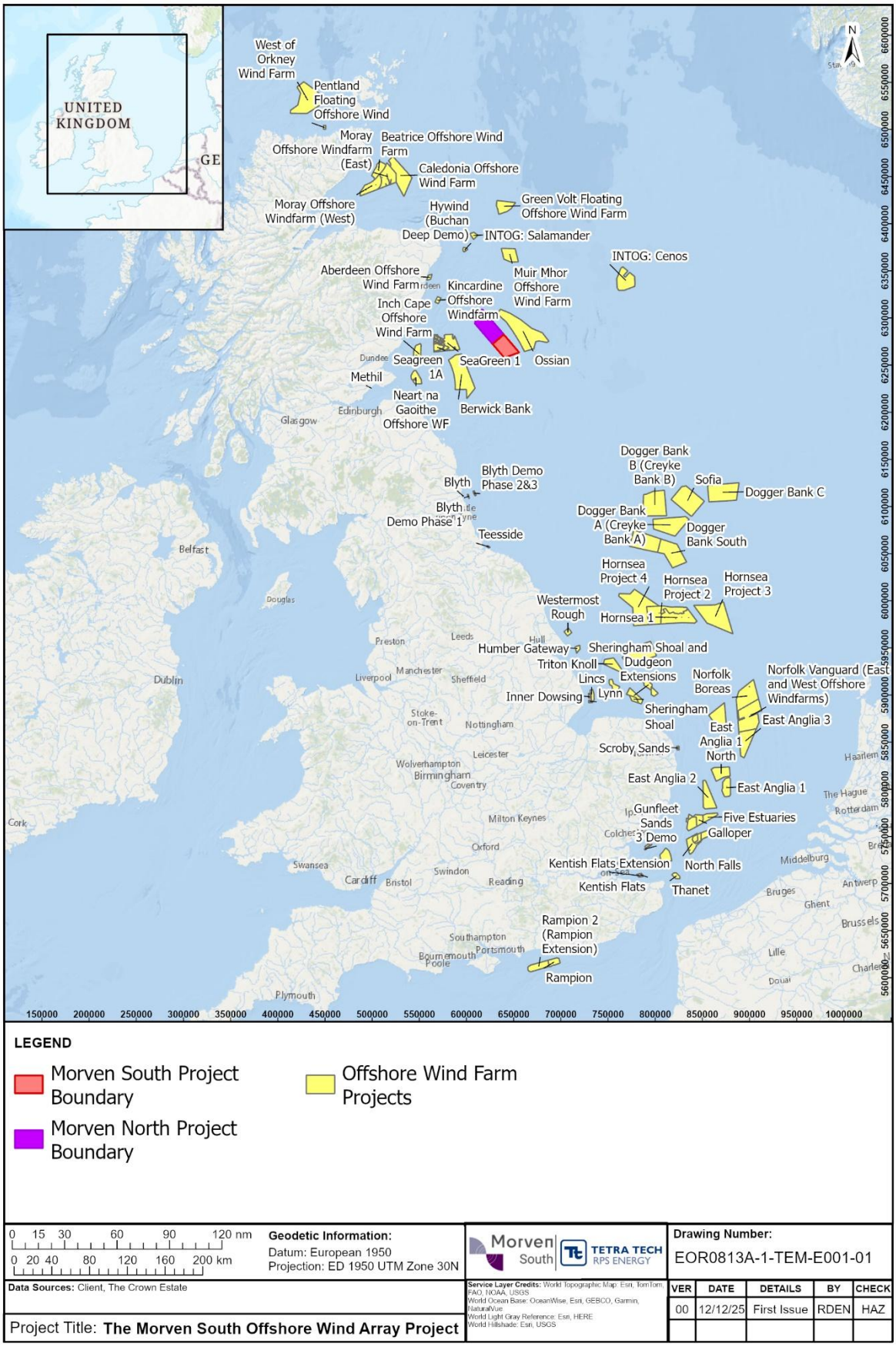


Figure 5.14: Location of other plans and projects considered for the in-combination effects assessment on Special Protection Areas with offshore ornithological features

Table 5.44: List of other plans and projects with potential for in-combination effects on offshore ornithological features

Plan/project	Status	Description	Overlap with Morven North
Tier 1			
Aberdeen Offshore Wind Farm	Operational	Consists of up to 11 turbines at a capacity of 96.8MW	Operation phase overlaps with Morven South construction and operation and maintenance phases.
INTOG: Aspen	Application submitted/ Awaiting decision	Proposed for up to 1,008MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Beatrice Offshore Wind Farm	Operational	Consists of 84 turbines at a capacity of 588MW	Operation phase overlaps with Morven South construction and operation and maintenance phases
Berwick Bank	Consented/ Pre-construction	Up to 307 turbines with a capacity of up to 4,100MW	Proposed operation phase overlaps with Morven South construction phase, followed by the Morven South operation and maintenance phase
Blyth Demo Phase 1	Operational	Consists of up to 15 turbines at a capacity of 41.5MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Blyth Demo Phase 2&3	Operational	Consented for up to 5 floating turbines at a capacity of 58.4MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Buchan	Application submitted/ Awaiting decision	Proposed for up to 60 turbines at a capacity of 960MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Caledonia Offshore Wind Farm	Application submitted/ Awaiting decision	Proposed for up to 150 turbines at a capacity of 2,000MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
INTOG: Cenos	Application submitted/ Awaiting decision	Proposed for up to 1,350MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase

Plan/project	Status	Description	Overlap with Morven North
Dogger Bank A (Creyke Bank A)	Operational	Consented for up to 95 turbines at a capacity of 1,200MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Dogger Bank B (Creyke Bank B)	Under construction	Consented for up to 95 turbines at a capacity of 1,200MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Dogger Bank C	Under construction	Consented for up to 87 turbines at a capacity of 1,200MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Dogger Bank South	Consented/ Pre-construction	Proposed for up to 200 turbines at a capacity of 3,000MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Dudgeon	Operational	Consists of up to 67 turbines at a capacity of 402MW	Operation phase overlaps with Morven South construction phase. Decommissioning begins at the end of the Morven South and Morven North construction window so whether or not there is operation phase overlap depends on the sequence of construction for Morven South and Morven North
Dudgeon Extension Project	Under construction	Proposed for up to 30 turbines at a capacity of 402MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
East Anglia One	Operational	Consists of up to 102 turbines at a capacity of up to 714MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
East Anglia One North	Under construction	Consented for up to 67 turbines at a capacity of 800MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
East Anglia Two	Under construction	Consented for up to 75 turbines at a capacity of 900MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase

Plan/project	Status	Description	Overlap with Morven North
East Anglia Three	Under construction	Consists of up to 172 turbines at a capacity of 1,200MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Five Estuaries	Consented/ Pre-construction	Proposed for up 79 turbines at a capacity of 353MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Galloper	Operational	Consists of up to 56 turbines at a capacity of 353MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Green Volt Floating Offshore Wind Farm	Consented/ Pre-construction	Proposed for up to 35 turbines at a capacity of 560MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Gunfleet Sands 3 Demo	Operational	Consists of 2 turbines at a capacity of 12MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Hornsea Project One	Operational	Consists of up to 174 turbines at a capacity of 1,200MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Hornsea Project Two	Operational	Consists of up to 165 turbines at a capacity of 1,300MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Hornsea Project Three	Under construction	Consented for up to 231 turbines at a capacity of 2,850MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Hornsea Four	Consented	Proposed for up to 180 turbines at a capacity of 2,600MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Humber Gateway	Operational	Consists of 73 turbines at a capacity of 219MW	Operation phase overlaps with six years of the Morven South and Morven North construction window. There will be one year of operation phase overlap between either

Plan/project	Status	Description	Overlap with Morven North
			Morven South or Morven North, depending on the sequence of construction of Morven South and Morven North
Inch Cape Offshore Wind Farm	Under construction	Consented for up to 72 turbines at a capacity of 1,100MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Kentish Flats	Operational	Consists of up to 30 turbines at a capacity of 90MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Kentish Flats Extension	Operational	Consists of up to 15 turbines at a capacity of 49.5MW	Operation phase overlaps with nine years of the Morven South and Morven North construction window. Operation overlap with the Morven South operation phase depends on the sequence of construction of Morven South and Morven North
Kincardine Offshore Windfarm	Operational	Consists of 6 turbines at a capacity of 50MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Lincs	Operational	Consists of 75 turbines at a capacity of 270MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Moray Offshore Wind Farm (East)	Operational	Consists of up to 100 turbines at a capacity of 950MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Moray Offshore Windfarm (West)	Operational	Consented for up to 60 turbines at a capacity of 882MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Morven North Offshore Wind Array Project	Application submitted/ awaiting decision	Proposed for up to 96 turbines at a capacity of 1,500MW	Identical timeline to Morven South and, as such, there is complete overlap between the two projects
Muir Mhòr Offshore Wind Farm	Application submitted/ awaiting decision	Proposed for a capacity of 798MW	One year in which construction phase overlaps with the Morven South and Morven North construction window, followed by overlap between operation phase and the

Plan/project	Status	Description	Overlap with Morven North
			Morven South construction phase, then many years of operation phase overlap between the two projects
Neart na Gaoithe Offshore Wind	Operational	Consented for up to 54 turbines at a capacity of 450MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Norfolk Boreas	Under construction	Consented for up to 158 turbines at a capacity of 1,400MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Norfolk Vanguard (East and West Offshore Windfarms)	Under construction	Proposed for up to 200 turbines at a capacity of 1,400MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
North Falls	Application submitted/ Awaiting decision	Proposed for up to 71 turbines at a capacity of 504MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Ossian	Application submitted/ Awaiting decision	Proposed for up to 3,610MW capacity	The Ossian construction phase overlaps with the Morven South and Morven North construction window for 6 years, before Ossian is operational for a further 4 years of the Morven South and Morven North construction window. There are then many years of operation phase overlap between the two projects
Outer Dowsing	Consented/ pre-construction	Proposed for up to 1.5GW capacity	Target operation phase overlaps with Morven South construction phase and operation and maintenance phase
Pentland Floating Offshore Wind	Under construction	Consented for up to 10 turbines at a capacity of 100MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Race Bank	Operational	Consists of up to 91 turbines at a capacity of 573MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase

Plan/project	Status	Description	Overlap with Morven North
Rampion	Operational	Consists of up to 116 turbines at a capacity of 400MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Rampion 2 (Rampion Extension)	Under construction	Proposed for up to 116 turbines at a capacity of 1,200MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
INTOG: Salamander	Consented/ pre-construction	Proposed for up 100MW capacity	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
SeaGreen 1	Operational	Consists of up to 114 turbines at a capacity of 1,075MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
SeaGreen 1A	Under construction	Consented for up to 36 turbines with no maximum generating capacity	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Sheringham Shoal Extension	Under construction	Proposed for up to 27 turbines at a capacity of 317MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Sofia	Under construction	Consists of up to 100 turbines at a capacity of 1,400MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Teesside	Operational	Consists of 27 turbines at a capacity of 62MW	Operation phase overlaps with six years of the Morven South and Morven North construction window. There will be one year of operation phase overlap between either Morven South or Morven North, depending on the sequence of construction of Morven South and Morven North
Thanet	Operational	Consists of up to 100 turbines at a capacity of 300MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase

Plan/project	Status	Description	Overlap with Morven North
Triton Knoll	Operational	Consists of up to 90 turbines at a capacity of 857MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
West of Orkney Wind Farm	Consented/ pre-construction	Proposed for up to 125 turbines at a capacity of 2,000MW	Operation phase overlaps with Morven South construction phase and operation and maintenance phase
Westermost Rough	Operational	Consists of up to 35 turbines at a capacity of 210MW	Operation phase overlaps with eight years of the Morven South and Morven North construction window. Operation overlap with the Morven South operation phase depends on the sequence of construction of Morven South and Morven North

5.5.2 Collision risk

5.5.2.1 The LSE[2] assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1) identified that during the operations and maintenance phase, the potential for LSE[2] could not be ruled out for potential in-combination collision risk. The impact predicted for Morven South alone exceeded the 0.2 birds/annum impact threshold as recommended by NatureScot for the following sites and relevant offshore ornithological features and therefore they are progressed to in-combination assessments:

- Kittiwake at the Buchan Ness to Collieston Coast SPA;
- Kittiwake at the East Caithness Cliffs SPA;
- Kittiwake at the Flamborough and Filey Coast SPA;
- Kittiwake at the Fowlsheugh SPA;
- Kittiwake at the St Abb's Head to Fast Castle SPA;
- Kittiwake at the Troup, Pennan and Lion's Heads SPA;
- Gannet at the Forth Islands SPA.

5.5.2.2 The predicted impact for all other SPA and qualifying features combinations included in Table 5.23 and Table 5.24 is considered to be undetectable against the existing baseline mortality of each population and therefore Morven South will make no measurable contribution to any existing in-combination impact.

5.5.2.3 In addition, a number of SPAs that support the breeding populations of features from SPAs included in the list above are also included in the in-combination assessment. This is applicable to the Outer Firth of Forth and St Andrew's Bay Complex SPA which supports kittiwake from the St Abb's Head to Fast Castle SPA, the Fowlsheugh SPA, the Buchan Ness to Collieston Coast SPA and the Troup, Pennan and Lion's Heads SPA and gannet from the Forth Islands SPA.

5.5.2.4 The MDS considered for this in-combination assessment is shown in Table 5.45. The designed-in measures are presented in Table 5.12 for the assessment of Morven South alone are also relevant for the in-combination assessment.

5.5.2.5 Throughout the following assessment sections it is important to take account of the following uncertainties associated with the PVA modelling used to inform the assessment:

- Over-estimation of in-combination impacts. The PVA modelling does not account for changes in the predicted in-combination total due to the decommissioning of projects considered in-combination. Over the lifetime of Morven South the in-combination impact will reduce significantly when licences for current projects expire and decommissioning occurs. The PVA metrics are therefore highly precautionary.
- No consideration has been made for density dependent compensation of demographic parameters within the modelled population, nor immigration, both of which could reduce the magnitude of any population change.

5.5.2.6 In addition, the in-combination collision risk estimates calculated under both the Applicant's and NatureScot's approaches are considered to be over-estimates due to the following factors:

- The use of flight speeds that do not provide a robust representation of the behaviour of kittiwake in the modelling conducted for projects considered in-combination. For kittiwake an approximate 27% reduction would be expected if more robust flight speeds are used (Ørsted, 2018). For gannet, an approximate 7% reduction would be expected if more robust flight speeds are used (see Volume 3, Annex 11.2 Offshore Ornithology Collision Risk Modelling Report of the EIA Report for more information).
- Collision risk estimates for projects considered in-combination are calculated using the assessed turbine scenario. The assessed turbine scenario often doesn't represent the final design for a project with these as-built turbine scenarios often having a much lower

associated collision risk. This can lead to a significant over-estimation of in-combination effects.

Table 5.45: Maximum Design Scenario considered for the assessment of potential impacts to offshore ornithological features due to collision risk in the operations and maintenance phase of Morven South in-combination with other plans and projects

Project phase	MDS	Justification
Operation and maintenance	There are no collision risk impacts associated with the MHPGC Project and MBAGC Project and therefore only scenarios 3 and 4 are relevant to the in-combination assessment of collision risk. **Scenario 3** MDS as described for Morven South (Table 5.21), assessed in-combination with Morven North. **Scenario 4** MDS as described for Morven South (Table 5.21), assessed in-combination with Morven North, and the following other offshore wind farm projects and plans: **Tier 1** • Aberdeen • Aspen • Beatrice • Berwick Bank • Blyth Demo • Buchan • Caledonia • Cenos • Dogger Bank A + B • Dogger Bank C + Sofia • Dogger Bank South • Dudgeon • East Anglia One • East Anglia One North • East Anglia Three	There is potential for an in-combination effect from operations and maintenance activities and so a quantitative in-combination assessment is required.

Project phase	MDS	Justification
	• East Anglia Two • Five Estuaries • Galloper • Green Volt • Gunfleet Sands 3 • Hornsea Four • Hornsea Project One • Hornsea Project Three • Hornsea Project Two • Hywind • Inch Cape • Kentish Flats • Kentish Flats Extension • Kincardine • Lincs • Moray East • Moray West • Muir Mhor • Neart na Gaoithe • Norfolk Boreas • Norfolk Vanguard • North Falls • Ossian • Outer Dowsing • Pentland • Race Bank • Rampion	

Project phase	MDS	Justification
	• Rampion 2 • Salamander • SeaGreen (Alpha & Bravo) • Sheringham Shoal and Dudgeon Extensions • Thanet • Triton Knoll • West of Orkney • Westermost Rough	

5.5.2.7 Morven South, together with other offshore wind farms in the North Sea, may contribute to in-combination collision risk, in the event the operations phases of different projects overlap. Seabirds are highly mobile, therefore they can encounter different offshore wind farms, and be at risk of collisions, across large areas. The MDS presented in Table 5.45 incorporates both Morven South and Morven North in addition to those offshore wind farms considered in-combination that may impact offshore ornithology receptors.

5.5.2.8 The SPAs and associated qualifying features considered in relation to in-combination collision risk impacts are identified above (see paragraph 5.5.2.1). The predicted impact from Morven South alone for all of these features surpassed the 0.2 birds/annum recommended by NatureScot (pre-application consultation undertaken in January 2025; Table 2.1) as a threshold for when an in-combination assessment is required.

5.5.2.9 Data used within the assessment of in-combination collision risk is based on published information produced by the respective project developers. As such, the input parameters (e.g. avoidance rates) and the collision risk model used (e.g. deterministic) may vary from those used in the collision risk modelling undertaken for Morven South which is based on the most up to date understanding of collision risk. Where practicable collision risk estimates derived for previous projects have been corrected to account for changes in certain parameters (e.g. avoidance rate).

5.5.2.10 Breeding season apportioning values are comprised of three factors, a colony proportion, an immature proportion and a sabbatical proportion. Where practicable the colony proportion applicable to an SPA for each project has been obtained from project-specific documentation. However, for some projects, especially older projects, apportioning was not undertaken. For these projects, the apportioning values presented in MacArthur Green (2024) have been used. When calculating in-combination values following NatureScot's approach, immature proportions use those values recommended by NatureScot as part of pre-application consultation for Morven South have been applied to all projects. For the Applicant's approach, immature proportions have been obtained from project-specific literature where these are available. For projects where they are not available the immature proportions recommended by NatureScot have been applied. For sabbatical proportions, the values recommended by NatureScot have been used in both NatureScot's and the Applicant's approach.

5.5.2.11 In non-breeding seasons, apportioning values have been calculated using population data from Furness (2015). Unapportioned collision risk estimates for all species at all projects are presented in Volume 2, Chapter 11: Offshore Ornithology of the EIA Report.

5.5.2.12 In all tables in this section individual project totals and in-combination totals are rounded to one decimal point. All underlying calculations use non-rounded numbers and therefore totals may not match totals derived from constituent rounded numbers.

Operation and maintenance phase

Kittiwake

5.5.2.13 Collision risk estimates for kittiwake apportioned to each of the SPAs identified in paragraph 5.5.2.1 are presented on a seasonal basis in the following SPA-specific sections The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance.

5.5.2.14 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Buchan Ness to Collieston Coast Special Protection Area

5.5.2.15 The predicted impact on kittiwake at the Buchan Ness to Collieston Coast SPA from the Morven Programme (Scenario 3) is presented in Table 5.46 for NatureScot's approach and Table 5.47 for the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total collision impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.2.16 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Buchan Ness to Collieston Coast SPA in relation to collision risk associated with the Morven Programme (Scenario 3).

5.5.2.17 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the Buchan Ness to Collieston Coast SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.2.18 The predicted in-combination impact on kittiwake at the Buchan Ness to Collieston Coast SPA is presented in Table 5.49 for NatureScot's approach and Table 5.50 for the Applicant's approach. The total in-combination impact apportioned to the kittiwake population at the Buchan Ness to Collieston Coast SPA is 27 (Applicant's approach) to 71 (NatureScot's approach) birds. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.2.19 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's and the Applicant's advocated parameters indicates a median CPS of 0.878 to 0.952 (i.e. the population after 35 years, would be 4.8 to 12.2% smaller than the CPS with a 50th percentile value of 38.7 to 45.7 (Table 5.48)). In terms of the population size, this means that the median of the impacted population fell within the 39th to 46th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario, and therefore there would likely be no adverse effect on the population. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.996 to 0.999 which translates to a growth rate 0.1 to 0.4% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.2.20 The population of kittiwake at the Buchan Ness to Collieston Coast SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the Buchan Ness to Collieston Coast SPA decreased between the Seabird 2000 and Seabirds Count national censuses but has increased slightly since Seabirds Count (BTO *et al.*, 2025).

5.5.2.21 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.2.5. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.2.6.

5.5.2.22 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is

applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhòr, Ossian and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.2.23 When the factors discussed in paragraphs 5.5.2.5 and 5.5.2.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered.

5.5.2.24 Impacts on kittiwake that undermine the conservation objectives of the at the Buchan Ness to Collieston Coast SPA will not occur as a result of in-combination collision risk impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.2.25 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Buchan Ness to Collieston Coast SPA in relation to collision risk impacts associated with Morven South in-combination with other plans and projects.

Table 5.46: : Predicted in-combination annual mortality rate of kittiwake at the Buchan Ness to Collieston Coast Special Protection Area resulting from collision risk impacts (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.12	0.53	0.90	0.02	0.02	0.4	0.0	0.0	0.4
Morven North	0.15	0.53	0.90	0.02	0.02	1.4	0.0	0.1	1.5
Total annual mortality (birds/annum)									1.9
Change in baseline mortality (percentage point change)									0.009
Tier 1 (Scenario 4)									
Aberdeen	0.56	0.53	0.90	0.02	0.02	2.7	0.0	0.0	2.8
Aspen	0.27	0.53	0.90	0.02	0.02	0.9	0.0	0.1	1.0
Beatrice	0.00	0.53	0.90	0.02	0.02	0.0	0.2	0.5	0.6
Berwick Bank	0.01	0.53	0.90	0.02	0.02	2.3	2.1	2.9	7.3
Blyth Demo	0.18	0.53	0.90	0.02	0.02	0.1	0.0	0.0	0.2
Buchan	0.18	0.53	0.90	0.02	0.02	0.3	0.0	0.1	0.4
Caledonia North	0.06	0.53	0.90	0.02	0.02	0.6	0.1	0.0	0.7
Caledonia South	0.08	0.53	0.90	0.02	0.02	1.8	0.1	0.1	1.9
Cenos	0.16	0.53	0.90	0.02	0.02	0.6	0.1	0.0	0.7
Dogger Bank A + B				0.02	0.02		1.4	5.5	6.9
Dogger Bank South				0.02	0.02		1.5	2.4	3.9
Dogger Bank C + Sofia				0.02	0.02		1.0	4.0	5.0
Dudgeon Extension				0.02	0.02		0.1	0.1	0.1

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One				0.02	0.02		2.1	0.8	2.8
East Anglia One North				0.02	0.02		0.1	0.3	0.4
East Anglia Three				0.02	0.02		0.9	0.6	1.5
East Anglia Two				0.02	0.02		0.1	0.2	0.3
Five Estuaries				0.02	0.02		0.1	0.3	0.4
Galloper				0.02	0.02		0.3	0.5	0.8
Green Volt	0.25	0.53	0.90	0.02	0.02	0.7	0.1	0.1	0.8
Hornsea Project One				0.02	0.02		0.1	0.1	0.2
Hornsea Project Two				0.02	0.02		0.1	0.1	0.2
Hornsea Project Three				0.02	0.02		0.5	0.5	1.0
Hornsea Four				0.02	0.02		0.2	0.2	0.3
Humber Gateway				0.02	0.02		0.0	0.0	0.1
Inch Cape	0.00	0.53	0.90	0.02	0.02	0.0	0.3	0.1	0.4
Kentish Flats Extension				0.02	0.02		0.0	0.0	0.0
Kincardine	0.11	0.53	0.90	0.02	0.02	0.8	0.1	0.0	0.9
Lincs				0.02	0.02		0.0	0.0	0.0
Moray East	0.00	0.53	0.90	0.02	0.02	0.0	0.0	0.1	0.2
Moray West	0.00	0.53	0.90	0.02	0.02	0.0	0.3	0.1	0.4
Muir Mhor	0.31	0.53	0.90	0.02	0.02	9.8	0.0	0.2	10.0
Neart na Gaoithe	0.03	0.53	0.90	0.02	0.02	0.1	0.2	0.0	0.3

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Boreas				0.02	0.02		0.4	0.2	0.7
Norfolk Vanguard				0.02	0.02		0.2	0.5	0.7
North Falls				0.02	0.02		0.1	0.3	0.3
Ossian	0.14	0.53	0.90	0.02	0.02	1.9	0.1	0.2	2.2
Outer Dowsing				0.02	0.02		0.1	0.3	0.4
Pentland	0.00	0.53	0.90	0.02	0.02	0.0	0.0	0.0	0.0
Race Bank				0.02	0.02		0.2	0.1	0.3
Salamander	0.50	0.53	0.90	0.02	0.02	2.2	0.0	0.0	2.2
SeaGreen (Alpha & Bravo)	0.07	0.53	0.90	0.02	0.02	2.9	1.9	1.3	6.1
Sheringham Shoal Extension				0.02	0.02		0.0	0.0	0.0
Teesside				0.02	0.02		0.2	0.2	0.3
Thanet				0.02	0.02		0.0	0.0	0.0
Triton Knoll				0.02	0.02		1.3	1.2	2.4
West of Orkney	0.01	0.53	0.90	0.02	0.02	0.1	0.3	0.5	0.9
Westermost Rough				0.02	0.02		0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									71.1
Change in baseline mortality (percentage point change)									0.315

Table 5.47: Predicted in-combination annual mortality rate of kittiwake at the Buchan Ness to Collieston Coast Special Protection Area resulting from collision risk impacts (Applicant's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.12	0.78	0.90	0.02	0.02	0.1	0.0	0.0	0.1
Morven North	0.15	0.87	0.90	0.02	0.02	0.5	0.0	0.0	0.5
Total annual mortality (birds/annum)									0.7
Change in baseline mortality (percentage point change)									0.003
Tier 1 (Scenario 4)									
Aberdeen	0.56	0.53	0.90	0.02	0.02	1.1	0.0	0.0	1.1
Aspen	0.27	0.53	0.90	0.02	0.02	0.3	0.0	0.0	0.3
Beatrice	0.00	0.53	0.90	0.02	0.02	0.0	0.1	0.2	0.2
Berwick Bank	0.01	0.92	0.90	0.02	0.02	1.2	0.6	0.9	2.7
Blyth Demo	0.18	0.53	0.90	0.02	0.02	0.0	0.0	0.0	0.1
Buchan	0.18	0.82	0.90	0.02	0.02	0.1	0.0	0.0	0.2
Caledonia North	0.06	0.53	0.90	0.02	0.02	0.2	0.0	0.0	0.2
Caledonia South	0.08	0.53	0.90	0.02	0.02	0.5	0.0	0.0	0.6
Cenos	0.16	0.87	0.90	0.02	0.02	0.3	0.0	0.0	0.3
Dogger Bank A + B					0.02		0.5	2.2	2.7
Dogger Bank South					0.02		0.4	0.7	1.1
Dogger Bank C + Sofia					0.02		0.4	1.5	1.9
Dudgeon Extension					0.02		0.0	0.0	0.1

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One					0.02		0.8	0.3	1.1
East Anglia One North					0.02		0.0	0.1	0.2
East Anglia Three					0.02		0.3	0.2	0.6
East Anglia Two					0.02		0.0	0.1	0.1
Five Estuaries					0.02		0.0	0.1	0.1
Galloper					0.02		0.1	0.2	0.3
Green Volt	0.25	0.53	0.90	0.02	0.02	0.2	0.0	0.0	0.2
Hornsea Project One				0.02	0.02		0.0	0.0	0.1
Hornsea Project Two				0.02	0.02		0.0	0.0	0.1
Hornsea Project Three				0.02	0.02		0.2	0.2	0.4
Hornsea Four				0.02	0.02		0.0	0.1	0.1
Humber Gateway				0.02	0.02		0.0	0.0	0.0
Inch Cape	0.00	0.53	0.90	0.02	0.02	0.0	0.1	0.0	0.2
Kentish Flats Extension				0.02	0.02		0.0	0.0	0.0
Kincardine	0.11	0.95	0.90	0.02	0.02	0.5	0.0	0.0	0.6
Lincs				0.02	0.02		0.0	0.0	0.0
Moray East	0.00	0.92	0.90	0.02	0.02	0.0	0.0	0.1	0.1
Moray West	0.00	0.97	0.90	0.02	0.02	0.0	0.1	0.0	0.2
Muir Mhor	0.31	0.53	0.90	0.02	0.02	2.9	0.0	0.1	3.0
Neart na Gaoithe	0.03	0.82	0.90	0.02	0.02	0.0	0.1	0.0	0.1

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Boreas				0.02	0.02		0.2	0.1	0.3
Norfolk Vanguard				0.02	0.02		0.1	0.2	0.3
North Falls				0.02	0.02		0.0	0.1	0.1
Ossian	0.14	0.84	0.90	0.02	0.02	0.9	0.0	0.0	1.0
Outer Dowsing				0.02	0.02		0.0	0.1	0.1
Pentland	0.00	0.53	0.90	0.02	0.02	0.0	0.0	0.0	0.0
Race Bank				0.02	0.02		0.1	0.0	0.1
Salamander	0.50	0.69	0.90	0.02	0.02	0.8	0.0	0.0	0.8
SeaGreen (Alpha & Bravo)	0.07	0.94	0.90	0.02	0.02	2.0	0.7	0.5	3.2
Sheringham Shoal Extension				0.02	0.02		0.0	0.0	0.0
Teesside				0.02	0.02		0.1	0.1	0.1
Thanet				0.02	0.02		0.0	0.0	0.0
Triton Knoll				0.02	0.02		0.5	0.5	0.9
West of Orkney	0.01	0.53	0.90	0.02	0.02	0.0	0.1	0.2	0.3
Westermost Rough				0.02	0.02		0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									26.8
Change in baseline mortality (percentage point change)									0.119

Table 5.48: Summary of population viability analysis results for in-combination collision impacts on the kittiwake feature of the Buchan Ness to Collieston Coast Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	25,588	1.003	9.16	-	-	-
NatureScot	71.1	0.315	22,403	0.999	-4.25	0.996	0.878	38.7
Applicant	26.8	0.119	24,357	1.001	4.16	0.999	0.952	45.7

East Caithness Cliffs Special Protection Area

5.5.2.26 The predicted impact on kittiwake at the East Caithness Cliffs SPA from the Morven Programme (Scenario 3) is presented in Table 5.49 for NatureScot's approach and Table 5.50 for the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total collision impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.2.27 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the East Caithness Cliffs SPA in relation to collision risk associated with the Morven Programme (Scenario 3).

5.5.2.28 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the East Caithness Cliffs SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.2.29 The predicted in-combination impact on kittiwake at the East Caithness Cliffs SPA is presented in Table 5.49 for NatureScot's approach and Table 5.50 for the Applicant's approach. The total in-combination impact apportioned to the kittiwake population at the East Caithness Cliffs SPA is 88 (Applicant's approach) to 217 (NatureScot's approach) birds. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.2.30 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's and the Applicant's advocated parameters indicates a median CPS of 0.832 to 0.928; (i.e. the population after 35 years, would be 7.2 to 16.8% smaller than the CPS with a 50th percentile value of 33.8 to 43.2 (Table 5.51)). In terms of the population size, this means that the median of the impacted population fell within the 34th to 43rd percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario, and therefore there would likely be no adverse effect on the population. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.995 to 0.998 which translates to a growth rate 0.2 to 0.5% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population. However, it is also important to note that the contribution of Morven South to the in-combination totals is only 0.1 to 0.2%. for the Applicant and NatureScot approaches respectively.

5.5.2.31 The population of kittiwake at the East Caithness Cliffs SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the East Caithness Cliffs SPA decreased between the Seabird 2000 and Seabirds Count national censuses and has decreased further since Seabirds Count (BTO *et al*, 2025).

5.5.2.32 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.2.5. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.2.6.

5.5.2.33 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhòr, Ossian, Salamander and West of Orkney. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.2.34 When the factors discussed in paragraphs 5.5.2.5 and 5.5.2.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered. The contribution of Morven South to the in-combination impact, particularly under NatureScot's recommended parameter scenario is also not considered to materially alter the current in-combination impact.

5.5.2.35 Impacts on kittiwake that undermine the conservation objectives of the East Caithness Cliffs SPA will therefore not occur as a result of in-combination collision risk impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.2.36 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the East Caithness Cliffs SPA in relation to collision risk impacts associated with Morven South in-combination with other plans and projects.

Table 5.49: Predicted in-combination annual mortality rate of kittiwake at the East Caithness Cliffs Special Protection Area resulting from collision risk impacts (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.05	0.53	0.90	0.06	0.08	0.2	0.1	0.2	0.4
Morven North	0.05	0.53	0.90	0.06	0.08	0.5	0.1	0.2	0.8
Total annual mortality (birds/annum)									1.2
Change in baseline mortality (percentage point change)									0.003
Tier 1 (Scenario 4)									
Aberdeen	0.00	0.53	0.90	0.06	0.08	0.0	0.1	0.0	0.2
Aspen	0.11	0.53	0.90	0.06	0.08	0.4	0.1	0.2	0.6
Beatrice	0.93	0.53	0.90	0.06	0.08	32.5	0.5	1.5	34.5
Berwick Bank	0.00	0.53	0.90	0.06	0.08	0.2	6.8	9.5	16.4
Blyth Demo		0.53	0.90	0.06	0.08		0.1	0.1	0.2
Buchan	0.25	0.53	0.90	0.06	0.08	0.4	0.1	0.3	0.8
Caledonia North	0.54	0.53	0.90	0.06	0.08	5.2	0.3	0.1	5.7
Caledonia South	0.40	0.53	0.90	0.06	0.08	8.3	0.2	0.3	8.7
Cenos	0.13	0.53	0.90	0.06	0.08	0.5	0.2	0.2	0.8
Dogger Bank A + B				0.06	0.08		4.4	17.8	22.2
Dogger Bank South				0.06	0.08		4.7	7.8	12.5

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Dogger Bank C + Sofia				0.06	0.08		3.3	12.8	16.1
Dudgeon Extension				0.06	0.08		0.2	0.2	0.4
East Anglia One				0.06	0.08		6.6	2.5	9.1
East Anglia One North				0.06	0.08		0.3	0.9	1.3
East Anglia Three				0.06	0.08		2.8	1.9	4.7
East Anglia Two				0.06	0.08		0.3	0.8	1.0
Five Estuaries				0.06	0.08		0.5	1.0	1.4
Galloper				0.06	0.08		1.1	1.6	2.7
Green Volt	0.17	0.53	0.90	0.06	0.08	0.4	0.3	0.2	1.0
Hornsea Project One				0.06	0.08		0.3	0.2	0.5
Hornsea Project Two				0.06	0.08		0.3	0.2	0.5
Hornsea Project Three				0.06	0.08		1.6	1.7	3.2
Hornsea Four				0.06	0.08		0.5	0.6	1.1
Humber Gateway				0.06	0.08		0.1	0.1	0.2
Inch Cape	0.00	0.53	0.90	0.06	0.08	0.0	1.1	0.3	1.4

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Kentish Flats Extension				0.06	0.08		0.0	0.0	0.1
Kincardine	0.00	0.53	0.90	0.06	0.08	0.0	0.4	0.1	0.5
Lincs				0.06	0.08		0.0	0.0	0.1
Moray East	0.75	0.53	0.90	0.06	0.08	5.5	0.0	0.5	5.9
Moray West	0.87	0.53	0.90	0.06	0.08	22.8	1.0	0.4	24.2
Muir Mhor	0.09	0.53	0.90	0.06	0.08	2.7	0.1	0.6	3.4
Neart na Gaoithe	0.00	0.53	0.90	0.06	0.08	0.0	0.8	0.1	0.9
Norfolk Boreas				0.06	0.08		1.3	0.8	2.1
Norfolk Vanguard				0.06	0.08		0.7	1.6	2.3
North Falls				0.06	0.08		0.2	0.9	1.1
Ossian	0.07	0.53	0.90	0.06	0.08	0.9	0.3	0.5	1.7
Outer Dowsing				0.06	0.08		0.2	1.1	1.3
Pentland	0.08	0.53	0.90	0.06	0.08	0.2	0.0	0.0	0.2
Race Bank				0.06	0.08		0.7	0.3	1.0
Salamander	0.07	0.53	0.90	0.06	0.08	0.3	0.0	0.0	0.3
SeaGreen (Alpha & Bravo)	0.00	0.53	0.90	0.06	0.08	0.0	6.2	4.2	10.3
Sheringham Shoal Extension				0.06	0.08		0.0	0.0	0.1
Teesside				0.06	0.08		0.5	0.5	1.0

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Thanet				0.06	0.08		0.0	0.0	0.0
Triton Knoll				0.06	0.08		4.1	3.7	7.8
West of Orkney	0.21	0.53	0.90	0.06	0.08	1.8	0.9	1.7	4.4
Westermost Rough				0.06	0.08		0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									217.2
Change in baseline mortality (percentage point change)									0.444

Table 5.50: Predicted in-combination annual mortality rate of kittiwake at the East Caithness Cliffs Special Protection Area resulting from collision risk impacts (Applicant's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.05	0.78	0.90	0.06	0.08	0.1	0.0	0.0	0.1
Morven North	0.05	0.87	0.90	0.06	0.08	0.2	0.0	0.0	0.2
Total annual mortality (birds/annum)									0.4
Change in baseline mortality (percentage point change)									0.001
Tier 1 (Scenario 4)									
Aberdeen	0.00	0.53	0.90	0.06	0.08	0.0	0.1	0.0	0.1
Aspen	0.11	0.53	0.90	0.06	0.08	0.1	0.0	0.1	0.2
Beatrice	0.93	0.53	0.90	0.06	0.08	12.7	0.2	0.6	13.5
Berwick Bank	0.00	0.92	0.90	0.06	0.08	0.1	2.0	2.8	4.9
Blyth Demo				0.06	0.08		0.0	0.0	0.1
Buchan	0.25	0.82	0.90	0.06	0.08	0.2	0.0	0.1	0.3
Caledonia North	0.54	0.53	0.90	0.06	0.08	1.5	0.1	0.0	1.7
Caledonia South	0.40	0.53	0.90	0.06	0.08	2.4	0.0	0.1	2.6
Cenos	0.13	0.87	0.90	0.06	0.08	0.2	0.1	0.0	0.3
Dogger Bank A + B				0.06	0.08		1.7	6.9	8.6
Dogger Bank South				0.06	0.08		1.4	2.3	3.7

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Dogger Bank C + Sofia				0.06	0.08		1.3	5.0	6.3
Dudgeon Extension				0.06	0.08		0.1	0.1	0.2
East Anglia One				0.06	0.08		2.6	1.0	3.5
East Anglia One North				0.06	0.08		0.1	0.4	0.5
East Anglia Three				0.06	0.08		1.1	0.7	1.8
East Anglia Two				0.06	0.08		0.1	0.3	0.4
Five Estuaries				0.06	0.08		0.1	0.3	0.4
Galloper				0.06	0.08		0.4	0.6	1.0
Green Volt	0.17	0.53	0.90	0.06	0.08	0.1	0.1	0.1	0.3
Hornsea Project One				0.06	0.08		0.1	0.1	0.2
Hornsea Project Two				0.06	0.08		0.1	0.1	0.2
Hornsea Project Three				0.06	0.08		0.6	0.6	1.3
Hornsea Four				0.06	0.08		0.2	0.2	0.3
Humber Gateway				0.06	0.08		0.0	0.0	0.1
Inch Cape	0.00	0.53	0.90	0.06	0.08	0.0	0.4	0.1	0.6

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Kentish Flats Extension				0.06	0.08		0.0	0.0	0.0
Kincardine	0.00	0.95	0.90	0.06	0.08	0.0	0.1	0.1	0.2
Lincs				0.06	0.08		0.0	0.0	0.0
Moray East	0.75	0.92	0.90	0.06	0.08	3.7	0.0	0.2	3.8
Moray West	0.87	0.97	0.90	0.06	0.08	16.3	0.4	0.1	16.8
Muir Mhor	0.09	0.53	0.90	0.06	0.08	0.8	0.0	0.2	1.0
Neart na Gaoithe	0.00	0.82	0.90	0.06	0.08	0.0	0.3	0.0	0.3
Norfolk Boreas				0.06	0.08		0.5	0.3	0.8
Norfolk Vanguard				0.06	0.08		0.3	0.6	0.9
North Falls				0.06	0.08		0.1	0.3	0.3
Ossian	0.07	0.84	0.90	0.06	0.08	0.4	0.1	0.1	0.7
Outer Dowsing				0.06	0.08		0.1	0.3	0.4
Pentland	0.08	0.53	0.90	0.06	0.08	0.1	0.0	0.0	0.1
Race Bank				0.06	0.08		0.3	0.1	0.4
Salamander	0.07	0.69	0.90	0.06	0.08	0.1	0.0	0.0	0.1
SeaGreen (Alpha & Bravo)	0.00	0.94	0.90	0.06	0.08	0.0	2.4	1.6	4.0
Sheringham Shoal Extension				0.06	0.08		0.0	0.0	0.0
Teesside				0.06	0.08		0.2	0.2	0.4

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Thanet				0.06	0.08		0.0	0.0	0.0
Triton Knoll				0.06	0.08		1.6	1.5	3.0
West of Orkney	0.21	0.53	0.90	0.06	0.08	0.5	0.3	0.5	1.3
Westermost Rough				0.06	0.08		0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									88.1
Change in baseline mortality (percentage point change)									0.180

Table 5.51: Summary of population viability analysis results for in-combination collision impacts on the kittiwake feature of the East Caithness Cliffs Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	55,109	1.002	8.26	-	-	-
NatureScot	217.2	0.444	45,779	0.997	-9.74	0.995	0.832	33.8
Applicant	88.1	0.180	50,971	1.000	0.54	0.998	0.928	43.2

Flamborough and Filey Coast Special Protection Area

5.5.2.37 The predicted impact on kittiwake at the Flamborough and Filey Coast SPA from the Morven Programme (Scenario 3) is presented in Table 5.52 for NatureScot's approach and Table 5.53 for the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total collision impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.2.38 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Flamborough and Filey Coast SPA in relation to collision risk associated with the Morven Programme (Scenario 3).

5.5.2.39 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the Flamborough and Filey Coast SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.2.40 The predicted in-combination impact on kittiwake at the Flamborough and Filey Coast SPA is presented in Table 5.52 for NatureScot's approach and Table 5.53 for the Applicant's approach. The total in-combination impact apportioned to the kittiwake population at the Flamborough and Filey Coast SPA is 112 (Applicant's approach) to 300 (NatureScot's approach) birds. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.2.41 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's and the Applicant's advocated parameters indicates a median CPS of 0.883 to 0.955; (i.e. the population after 35 years, would be 4.5 to 11.7% smaller than the CPS with a 50th percentile value of 39.3 to 45.9 (Table 5.54)). In terms of the population size, this means that the median of the impacted population fell within the 39th to 45th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.997 to 0.999 which translates to a growth rate 0.1 to 0.3% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population. However, it is also important to note that the contribution of Morven South to the in-combination total is only 0.2 to 0.2% for the Applicant and NatureScot approaches respectively.

5.5.2.42 The population of kittiwake at the Flamborough and Filey Coast SPA is currently above the population at designation (Table 5.8). The population of kittiwake at the Flamborough and Filey Coast SPA slightly increased (by 7%) between the Seabird 2000 and Seabirds Count national censuses.

5.5.2.43 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.2.5. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.2.6.

5.5.2.44 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Dogger Bank South, East Anglia One North, East Anglia Two, Five

Estuaries, Hornsea Three, Hornsea Four, Norfolk Boreas, Norfolk Vanguard, North Falls, Ossian, Outer Dowsing, Rampion 2, Sheringham Shoal Extension and Dudgeon Extension. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South.The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.2.45 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the kittiwake population at the SPA from continuing to grow, noting that the population of kittiwake at the SPA has shown an increasing trend between the two most recent national censuses. The contribution of Morven South to the in-combination impact, particularly under NatureScot's recommended parameter scenario is not considered to represent a material increase in the existing in-combination impact.

5.5.2.46 When the factors discussed in paragraphs 5.5.2.5 and 5.5.2.6 and the compensation required at other projects are taken into account it is considered that impacts on kittiwake that undermine the conservation objectives of the at the Flamborough and Filey Coast SPA will therefore not occur as a result of in-combination collision risk impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.2.47 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Flamborough and Filey Coast SPA in relation to collision risk impacts associated with Morven South in-combination with other plans and projects.

Table 5.52: Predicted in-combination annual mortality rate of kittiwake at the Flamborough and Filey Coast Special Protection Area resulting from collision risk impacts (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.13	0.53	0.90	0.05	0.07	0.4	0.1	0.1	0.7
Morven North	0.08	0.53	0.90	0.05	0.07	0.8	0.1	0.2	1.1
Total annual mortality (birds/annum)									1.8
Change in baseline mortality (percentage point change)									0.002
Tier 1 (Scenario 4)									
Aberdeen				0.05	0.07		0.1	0.0	0.2
Aspen	0.00	0.53	0.90	0.05	0.07		0.1	0.2	0.2
Beatrice				0.05	0.07		0.5	1.4	1.9
Berwick Bank	0.00	0.53	0.90	0.05	0.07	0.2	6.3	8.8	15.3
Blyth Demo	0.54	0.53	0.90	0.05	0.07	0.4	0.1	0.1	0.5
Buchan				0.05	0.07		0.1	0.2	0.3
Caledonia North				0.05	0.07		0.3	0.1	0.4
Caledonia South				0.05	0.07		0.2	0.3	0.4
Cenos				0.05	0.07		0.2	0.1	0.3
Dogger Bank A + B	0.12	0.53	0.90	0.05	0.07	11.4	4.1	16.6	32.0
Dogger Bank South	0.97	0.53	0.90	0.05	0.07	56.8	4.4	7.3	68.5

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Dogger Bank C + Sofia	0.14	0.53	0.90	0.05	0.07	6.0	3.0	11.9	20.9
Dudgeon Extension	1.00	0.53	0.90	0.05	0.07	2.0	0.2	0.2	2.4
East Anglia One	0.17	0.53	0.90	0.05	0.07	0.1	6.2	2.3	8.5
East Anglia One North	0.17	0.53	0.90	0.05	0.07	1.5	0.3	0.9	2.7
East Anglia Three	0.17	0.53	0.90	0.05	0.07	0.4	2.6	1.8	4.8
East Anglia Two	0.17	0.53	0.90	0.05	0.07	1.2	0.2	0.7	2.2
Five Estuaries	0.00	0.53	0.90	0.05	0.07	0.0	0.4	0.9	1.3
Galloper	0.00	0.53	0.90	0.05	0.07	0.0	1.0	1.5	2.5
Green Volt				0.05	0.07		0.3	0.2	0.5
Hornsea Project One	0.83	0.53	0.90	0.05	0.07	2.6	0.3	0.2	3.1
Hornsea Project Two	0.83	0.53	0.90	0.05	0.07	4.5	0.3	0.2	5.0
Hornsea Project Three	0.93	0.53	0.90	0.05	0.07	16.9	1.5	1.5	19.9
Hornsea Four	1.00	0.53	0.90	0.05	0.07	20.7	0.5	0.6	21.8
Humber Gateway	0.99	0.53	0.90	0.05	0.07	0.9	0.1	0.1	1.1
Inch Cape	0.00	0.53	0.90	0.05	0.07	0.0	1.0	0.3	1.3

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Kentish Flats Extension				0.05	0.07		0.0	0.0	0.1
Kincardine	0.00	0.53	0.90	0.05	0.07	0.0	0.3	0.1	0.5
Lincs	0.99	0.53	0.90	0.05	0.07	0.3	0.0	0.0	0.4
Moray East				0.05	0.07		0.0	0.4	0.5
Moray West				0.05	0.07		0.9	0.4	1.3
Muir Mhor				0.05	0.07		0.0	0.6	0.6
Neart na Gaoithe	0.00	0.53	0.90	0.05	0.07	0.0	0.7	0.1	0.8
Norfolk Boreas	0.86	0.53	0.90	0.05	0.07	3.0	1.2	0.7	5.0
Norfolk Vanguard	0.86	0.53	0.90	0.05	0.07	3.2	0.6	1.5	5.4
North Falls	0.00	0.53	0.90	0.05	0.07	0.0	0.2	0.8	1.0
Ossian	0.12	0.53	0.90	0.05	0.07	1.7	0.3	0.5	2.4
Outer Dowsing	0.55	0.53	0.90	0.05	0.07	4.3	0.2	1.0	5.5
Pentland				0.05	0.07		0.0	0.0	0.0
Race Bank	0.99	0.53	0.90	0.05	0.07	3.0	0.6	0.3	3.9
Salamander				0.05	0.07		0.0	0.0	0.0
SeaGreen (Alpha & Bravo)	0.00	0.53	0.90	0.05	0.07	0.0	5.7	3.9	9.6
Sheringham Shoal Extension	1.00	0.53	0.90	0.05	0.07	0.2	0.0	0.0	0.2
Teesside	0.93	0.53	0.90	0.05	0.07	18.4	0.5	0.5	19.4

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Thanet				0.05	0.07		0.0	0.0	0.0
Triton Knoll	0.99	0.53	0.90	0.05	0.07	13.5	3.8	3.5	20.7
West of Orkney				0.05	0.07		0.9	1.6	2.4
Westermost Rough	0.00	0.53	0.90	0.05	0.07	0.0	0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									299.5
Change in baseline mortality (percentage point change)									0.291

Table 5.53: Predicted in-combination annual mortality rate of kittiwake at the Flamborough and Filey Coast Special Protection Area resulting from collision risk impacts (Applicant's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.13	0.78	0.90	0.05	0.07	0.1	0.0	0.0	0.2
Morven North	0.08	0.87	0.90	0.05	0.07	0.3	0.0	0.0	0.4
Total annual mortality (birds/annum)									0.6
Change in baseline mortality (percentage point change)									0.001
Tier 1 (Scenario 4)									
Aberdeen				0.05	0.07		0.1	0.0	0.1
Aspen	0.00	0.53	0.90	0.05	0.07		0.0	0.1	0.1
Beatrice				0.05	0.07		0.2	0.6	0.7
Berwick Bank	0.00	0.92	0.90	0.05	0.07	0.1	1.9	2.6	4.6
Blyth Demo	0.54	0.53	0.90	0.05	0.07	0.1	0.0	0.0	0.2
Buchan				0.05	0.07		0.0	0.1	0.1
Caledonia North				0.05	0.07		0.1	0.0	0.1
Caledonia South				0.05	0.07		0.0	0.1	0.1
Cenos				0.05	0.07		0.0	0.0	0.1
Dogger Bank A + B	0.12	0.53	0.90	0.05	0.07	4.4	1.6	6.5	12.5
Dogger Bank South	0.97	0.53	0.90	0.05	0.07	16.8	1.3	2.2	20.3
Dogger Bank C + Sofia	0.14	0.53	0.90	0.05	0.07	2.3	1.2	4.6	8.2
Dudgeon Extension	1.00	0.53	0.90	0.05	0.07	0.8	0.1	0.1	1.0

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One	0.17	0.53	0.90	0.05	0.07	0.0	2.4	0.9	3.3
East Anglia One North	0.17	0.53	0.90	0.05	0.07	0.6	0.1	0.3	1.0
East Anglia Three	0.17	0.53	0.90	0.05	0.07	0.2	1.0	0.7	1.9
East Anglia Two	0.17	0.53	0.90	0.05	0.07	0.5	0.1	0.3	0.9
Five Estuaries	0.00	0.53	0.90	0.05	0.07	0.0	0.1	0.3	0.4
Galloper	0.00	0.53	0.90	0.05	0.07	0.0	0.4	0.6	1.0
Green Volt				0.05	0.07		0.1	0.1	0.2
Hornsea Project One	0.83	0.74	0.90	0.05	0.07	1.4	0.1	0.1	1.6
Hornsea Project Two	0.83	0.86	0.90	0.05	0.07	2.8	0.1	0.1	3.0
Hornsea Project Three	0.93	0.88	0.90	0.05	0.07	10.9	0.6	0.6	12.0
Hornsea Four	1.00	0.53	0.90	0.05	0.07	6.1	0.1	0.2	6.4
Humber Gateway	0.99	0.53	0.90	0.05	0.07	0.3	0.0	0.0	0.4
Inch Cape	0.00	0.53	0.90	0.05	0.07	0.0	0.4	0.1	0.5
Kentish Flats Extension				0.05	0.07		0.0	0.0	0.0
Kincardine	0.00	0.95	0.90	0.05	0.07	0.0	0.1	0.0	0.2
Lincs	0.99	0.53	0.90	0.05	0.07	0.1	0.0	0.0	0.2
Moray East				0.05	0.07		0.0	0.2	0.2
Moray West				0.05	0.07		0.4	0.1	0.5
Muir Mhor				0.05	0.07		0.0	0.2	0.2
Neart na Gaoithe	0.00	0.82	0.90	0.05	0.07	0.0	0.3	0.0	0.3

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Boreas	0.86	0.53	0.90	0.05	0.07	1.2	0.5	0.3	2.0
Norfolk Vanguard	0.86	0.53	0.90	0.05	0.07	1.3	0.2	0.6	2.1
North Falls	0.00	0.59	0.90	0.05	0.07	0.0	0.1	0.2	0.3
Ossian	0.12	0.84	0.90	0.05	0.07	0.8	0.1	0.1	1.0
Outer Dowsing	0.55	0.77	0.90	0.05	0.07	1.9	0.0	0.3	2.2
Pentland				0.05	0.07		0.0	0.0	0.0
Race Bank	0.99	0.53	0.90	0.05	0.07	1.2	0.2	0.1	1.5
Salamander				0.05	0.07		0.0	0.0	0.0
SeaGreen (Alpha & Bravo)	0.00	0.94	0.90	0.05	0.07	0.0	2.2	1.5	3.7
Sheringham Shoal Extension	1.00	0.53	0.90	0.05	0.07	0.1	0.0	0.0	0.1
Teesside	0.93	0.53	0.90	0.05	0.07	7.2	0.2	0.2	7.6
Thanet				0.05	0.07		0.0	0.0	0.0
Triton Knoll	0.99	0.53	0.90	0.05	0.07	5.3	1.5	1.4	8.1
West of Orkney				0.05	0.07		0.3	0.5	0.7
Westermost Rough	0.00	0.53	0.90	0.05	0.07	0.0	0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									111.9
Change in baseline mortality (percentage point change)									0.109

Table 5.54: Summary of population viability analysis results for in-combination collision impacts on the kittiwake feature of the Flamborough and Filey Coast Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	117,660	1.002	8.97	-	-	-
NatureScot	299.6	0.291	103,862	0.999	-3.68	0.997	0.883	39.3
Applicant	111.9	0.109	112,341	1.001	3.99	0.999	0.955	45.9

Fowlsheugh Special Protection Area

5.5.2.48 The predicted impact on kittiwake at the Fowlsheugh SPA from the Morven Programme (Scenario 3) is presented in Table 5.55 for NatureScot's approach and Table 5.56 for the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total collision impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.2.49 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Fowlsheugh SPA in relation to collision risk associated with the Morven Programme (Scenario 3).

5.5.2.50 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the Fowlsheugh SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.2.51 The predicted in-combination impact on kittiwake at the Fowlsheugh SPA is presented in Table 5.55 for NatureScot's approach and Table 5.56 for the Applicant's approach. The total in-combination impact apportioned to the kittiwake population at the Fowlsheugh SPA is 49 (Applicant's approach) to 105 (NatureScot's approach) birds. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.2.52 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's and the Applicant's advocated parameters indicates a median CPS of 0.857 to 0.931; (i.e. the population after 35 years, would be 6.9 to 14.3% smaller than the CPS with a 50th percentile value of 36.2 to 43.7 (Table 5.57)). In terms of the population size, this means that the median of the impacted population fell within the 36th to 44th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.996 to 0.998 which translates to a growth rate 0.2 to 0.4% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.2.53 The population of kittiwake at the Fowlsheugh SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the Fowlsheugh SPA decreased between the Seabird 2000 and Seabirds Count national censuses but has increased since Seabirds Count (BTO *et al*, 2025).

5.5.2.54 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.2.5. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.2.6.

5.5.2.55 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Cenos, Green Volt, Muir Mhòr, Ossian and Salamander. The

proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South.The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.2.56 When the factors discussed in paragraphs 5.5.2.5 and 5.5.2.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered.

5.5.2.57 Impacts on kittiwake that undermine the conservation objectives of the at the Fowlsheugh SPA will not occur as a result of in-combination collision risk impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.2.58 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Fowlsheugh SPA in relation to collision risk impacts associated with Morven South in-combination with other plans and projects.

Table 5.55: Predicted in-combination annual mortality rate of kittiwake at the Fowlsheugh Special Protection Area resulting from collision risk impacts (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.23	0.53	0.90	0.01	0.02	0.7	0.0	0.0	0.8
Morven North	0.30	0.53	0.90	0.01	0.02	2.9	0.0	0.1	2.9
Total annual mortality (birds/annum)									3.7
Change in baseline mortality (percentage point change)									0.013
Tier 1 (Scenario 4)									
Aberdeen	0.18	0.53	0.90	0.01	0.02	0.9	0.0	0.0	0.9
Aspen	0.24	0.53	0.90	0.01	0.02	0.8	0.0	0.0	0.9
Beatrice	0.00	0.53	0.90	0.01	0.02	0.0	0.1	0.4	0.5
Berwick Bank	0.17	0.53	0.90	0.01	0.02	32.8	1.6	2.2	36.5
Blyth Demo	0.05	0.53	0.90	0.01	0.02	0.0	0.0	0.0	0.1
Buchan	0.11	0.53	0.90	0.01	0.02	0.2	0.0	0.1	0.3
Caledonia North	0.05	0.53	0.90	0.01	0.02	0.4	0.1	0.0	0.5
Caledonia South	0.06	0.53	0.90	0.01	0.02	1.2	0.0	0.1	1.3
Cenos	0.23	0.53	0.90	0.01	0.02	0.9	0.0	0.0	1.0
Dogger Bank A + B				0.01	0.02		1.0	4.1	5.1
Dogger Bank South				0.01	0.02		1.1	1.8	2.9
Dogger Bank C + Sofia				0.01	0.02		0.8	3.0	3.7
Dudgeon Extension				0.01	0.02		0.0	0.1	0.1
East Anglia One				0.01	0.02		1.5	0.6	2.1

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One North				0.01	0.02		0.1	0.2	0.3
East Anglia Three				0.01	0.02		0.7	0.4	1.1
East Anglia Two				0.01	0.02		0.1	0.2	0.2
Five Estuaries				0.01	0.02		0.1	0.2	0.3
Galloper				0.01	0.02		0.3	0.4	0.6
Green Volt	0.15	0.53	0.90	0.01	0.02	0.4	0.1	0.1	0.5
Hornsea Project One				0.01	0.02		0.1	0.1	0.1
Hornsea Project Two				0.01	0.02		0.1	0.1	0.1
Hornsea Project Three				0.01	0.02		0.4	0.4	0.7
Hornsea Four				0.01	0.02		0.1	0.1	0.3
Humber Gateway				0.01	0.02		0.0	0.0	0.0
Inch Cape	0.29	0.53	0.90	0.01	0.02	3.8	0.3	0.1	4.1
Kentish Flats Extension				0.01	0.02		0.0	0.0	0.0
Kincardine	0.29	0.53	0.90	0.01	0.02	2.0	0.1	0.0	2.1
Lincs				0.01	0.02		0.0	0.0	0.0
Moray East	0.00	0.53	0.90	0.01	0.02	0.0	0.0	0.1	0.1
Moray West	0.00	0.53	0.90	0.01	0.02	0.0	0.2	0.1	0.3
Muir Mhor	0.23	0.53	0.90	0.01	0.02	7.1	0.0	0.1	7.3
Neart na Gaoithe	0.08	0.53	0.90	0.01	0.02	0.2	0.2	0.0	0.4
Norfolk Boreas				0.01	0.02		0.3	0.2	0.5

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Vanguard				0.01	0.02		0.2	0.4	0.5
North Falls				0.01	0.02		0.0	0.2	0.2
Ossian	0.21	0.53	0.90	0.01	0.02	2.9	0.1	0.1	3.0
Outer Dowsing				0.01	0.02		0.0	0.2	0.3
Pentland	0.00	0.53	0.90	0.01	0.02	0.0	0.0	0.0	0.0
Race Bank				0.01	0.02		0.2	0.1	0.2
Salamander	0.10	0.53	0.90	0.01	0.02	0.4	0.0	0.0	0.4
SeaGreen (Alpha & Bravo)	0.39	0.53	0.90	0.01	0.02	15.5	1.4	1.0	17.9
Sheringham Shoal Extension				0.01	0.02		0.0	0.0	0.0
Teesside	0.02	0.53	0.90	0.01	0.02	0.3	0.1	0.1	0.5
Thanet				0.01	0.02		0.0	0.0	0.0
Triton Knoll				0.01	0.02		0.9	0.9	1.8
West of Orkney	0.01	0.53	0.90	0.01	0.02	0.1	0.2	0.4	0.7
Westermost Rough				0.01	0.02		0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									104.6
Change in baseline mortality (percentage point change)									0.372

Table 5.56: Predicted in-combination annual mortality rate of kittiwake at the Fowlsheugh Special Protection Area resulting from collision risk impacts (Applicant's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.23	0.78	0.90	0.01	0.02	0.3	0.0	0.0	0.3
Morven North	0.30	0.87	0.90	0.01	0.02	1.1	0.0	0.0	1.1
Total annual mortality (birds/annum)									1.3
Change in baseline mortality (percentage point change)									0.003
Tier 1 (Scenario 4)									
Aberdeen	0.18	0.53	0.90	0.01	0.02	0.3	0.0	0.0	0.3
Aspen	0.24	0.53	0.90	0.01	0.02	0.2	0.0	0.0	0.3
Beatrice	0.00	0.53	0.90	0.01	0.02	0.0	0.0	0.1	0.2
Berwick Bank	0.17	0.92	0.90	0.01	0.02	16.8	0.5	0.6	17.9
Blyth Demo	0.05	0.53	0.90	0.01	0.02	0.0	0.0	0.0	0.0
Buchan	0.11	0.82	0.90	0.01	0.02	0.1	0.0	0.0	0.1
Caledonia North	0.05	0.53	0.90	0.01	0.02	0.1	0.0	0.0	0.2
Caledonia South	0.06	0.53	0.90	0.01	0.02	0.4	0.0	0.0	0.4
Cenos	0.23	0.87	0.90	0.01	0.02	0.4	0.0	0.0	0.5
Dogger Bank A + B				0.01	0.02		0.4	1.6	2.0
Dogger Bank South				0.01	0.02		0.3	0.5	0.9
Dogger Bank C + Sofia				0.01	0.02		0.3	1.2	1.4
Dudgeon Extension				0.01	0.02		0.0	0.0	0.0
East Anglia One				0.01	0.02		0.6	0.2	0.8

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One North				0.01	0.02	0.3	0.0	0.0	0.3
East Anglia Three				0.01	0.02	0.2	0.0	0.0	0.3
East Anglia Two				0.01	0.02	0.0	0.0	0.1	0.2
Five Estuaries				0.01	0.02	16.8	0.5	0.6	17.9
Galloper				0.01	0.02	0.0	0.0	0.0	0.0
Green Volt	0.15	0.53	0.90	0.01	0.02	0.1	0.0	0.0	0.1
Hornsea Project One				0.01	0.02	0.1	0.0	0.0	0.2
Hornsea Project Two				0.01	0.02	0.4	0.0	0.0	0.4
Hornsea Project Three				0.01	0.02	0.4	0.0	0.0	0.5
Hornsea Four				0.01	0.02		0.4	1.6	2.0
Humber Gateway				0.01	0.02		0.3	0.5	0.9
Inch Cape	0.29	0.53	0.90	0.01	0.02		0.3	1.2	1.4
Kentish Flats Extension				0.01	0.02		0.0	0.0	0.0
Kincardine	0.29	0.95	0.90	0.01	0.02		0.6	0.2	0.8
Lincs		0.53	0.90	0.01	0.02		0.0	0.1	0.1
Moray East	0.00	0.92	0.90	0.01	0.02		0.3	0.2	0.4
Moray West	0.00	0.97	0.90	0.01	0.02		0.0	0.1	0.1
Muir Mhor	0.23	0.53	0.90	0.01	0.02	2.1	0.0	0.0	2.1
Neart na Gaoithe	0.08	0.82	0.90	0.01	0.02	0.1	0.1	0.0	0.2
Norfolk Boreas				0.01	0.02		0.1	0.1	0.2

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Vanguard				0.01	0.02		0.1	0.1	0.2
North Falls				0.01	0.02		0.0	0.1	0.1
Ossian	0.21	0.84	0.90	0.01	0.02	1.3	0.0	0.0	1.4
Outer Dowsing				0.01	0.02		0.0	0.1	0.1
Pentland	0.00	0.53	0.90	0.01	0.02	0.0	0.0	0.0	0.0
Race Bank				0.01	0.02		0.1	0.0	0.1
Salamander	0.10	0.69	0.90	0.01	0.02	0.2	0.0	0.0	0.2
SeaGreen (Alpha & Bravo)	0.39	0.94	0.90	0.01	0.02	10.7	0.6	0.4	11.7
Sheringham Shoal Extension				0.01	0.02		0.0	0.0	0.0
Teesside	0.02	0.53	0.90	0.01	0.02	0.1	0.0	0.0	0.2
Thanet				0.01	0.02		0.0	0.0	0.0
Triton Knoll				0.01	0.02		0.4	0.3	0.7
West of Orkney	0.01	0.53	0.90	0.01	0.02	0.0	0.1	0.1	0.2
Westermost Rough				0.01	0.02		0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									48.5
Change in baseline mortality (percentage point change)									0.173

Table 5.57: Summary of population viability analysis results for in-combination collision impacts on the kittiwake feature of the Fowlsheugh Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	31,491	1.002	8.23	-	-	-
NatureScot	104.6	0.372	26,958	0.998	-7.15	0.996	0.857	36.2
Applicant	48.5	0.173	29,391	1.000	0.60	0.998	0.931	43.7

St Abb's Head to Fast Castle Special Protection Area

5.5.2.59 The predicted impact on kittiwake at the St Abb's Head to Fast Castle SPA from the Morven Programme (Scenario 3) is presented in Table 5.58 for NatureScot's approach and Table 5.59 for the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total collision impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.2.60 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the St Abb's Head to Fast Castle SPA in relation to collision risk associated with the Morven Programme (Scenario 3).

5.5.2.61 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the St Abb's Head to Fast Castle SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.2.62 The predicted in-combination impact on kittiwake at the St Abb's Head to Fast Castle SPA is presented in Table 5.58 for NatureScot's approach and Table 5.59 for the Applicant's approach. The total in-combination impact apportioned to the kittiwake population at the St Abb's Head to Fast Castle SPA is 58 (Applicant's approach) to 117 (NatureScot's approach) birds. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.2.63 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's and the Applicant's advocated parameters indicates a median CPS of 0.622 to 0.792; (i.e. the population after 35 years, would be 20.8 to 37.8% smaller than the CPS with a 50th percentile value of 14.7 to 30.6 (Table 5.60)). In terms of the population size, this means that the median of the impacted population fell within the 15th to 31st percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the majority of the impact range applied as part of the impacted scenario is within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.987 to 0.993 which translates to a growth rate 0.7 to 1.3% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population. However, it is also important to note that the contribution of Morven South to the in-combination total is only 0.1 to 0.2% for the Applicant and NatureScot approaches respectively.

5.5.2.64 The population of kittiwake at the St Abb's Head to Fast Castle SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the St Abb's Head to Fast Castle SPA decreased between the Seabird 2000 and Seabirds Count national censuses but has stayed stable since Seabirds Count (BTO *et al*, 2025).

5.5.2.65 When considered against the current status of the kittiwake population at the SPA, the CGR associated with both the Applicant's and NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.2.5. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.2.6.

5.5.2.66 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South.The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.2.67 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that could prevent the kittiwake population at the SPA from continuing to recover. The population of kittiwake at the SPA has decreased between the two most recent national censuses but has shown signs of recovery since however, it remains below the designated population. The in-combination impact is considered to be an over-estimate due to various factors discussed in paragraph 5.5.2.5 and 5.5.2.6. Whilst taking account of these factors improves the PVA metrics it is considered that this may not be to a level at which an adverse effect can confidently be ruled out.

5.5.2.68 The predicted in-combination collision risk impact for kittiwake at the St Abb's Head to Fast Castle SPA has the potential to undermine the conservation objectives for the SPA. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.2.69 Therefore, due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for an AEOI on the kittiwake population of the St Abb's Head to Fast Castle SPA in relation to collision risk impacts associated with Morven South in-combination with other plans and projects.

Table 5.58: Predicted in-combination annual mortality rate of kittiwake at the St Abb's Head to Fast Castle Special Protection Area resulting from collision risk impacts (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.07	0.53	0.90	0.00	0.01	0.2	0.0	0.0	0.3
Morven North	0.05	0.53	0.90	0.00	0.01	0.5	0.0	0.0	0.5
Total annual mortality (birds/annum)									0.8
Change in baseline mortality (percentage point change)									0.008
Tier 1 (Scenario 4)									
Aberdeen	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Aspen	0.04	0.53	0.90	0.00	0.01	0.1	0.0	0.0	0.1
Beatrice	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.1	0.2
Berwick Bank	0.52	0.53	0.90	0.00	0.01	99.5	0.6	0.8	100.9
Blyth Demo	0.09	0.53	0.90	0.00	0.01	0.1	0.0	0.0	0.1
Buchan	0.01	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.1
Caledonia North	0.01	0.53	0.90	0.00	0.01	0.1	0.0	0.0	0.1
Caledonia South	0.01	0.53	0.90	0.00	0.01	0.1	0.0	0.0	0.2
Cenos	0.05	0.53	0.90	0.00	0.01	0.2	0.0	0.0	0.2
Dogger Bank A + B	0.00	0.53	0.90	0.00	0.01	0.0	0.4	1.5	1.9
Dogger Bank South	0.02	0.53	0.90	0.00	0.01	1.2	0.4	0.7	2.3
Dogger Bank C + Sofia	0.00	0.53	0.90	0.00	0.01	0.0	0.3	1.1	1.4
Dudgeon Extension				0.00	0.01		0.0	0.0	0.0

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One				0.00	0.01		0.6	0.2	0.8
East Anglia One North				0.00	0.01		0.0	0.1	0.1
East Anglia Three				0.00	0.01		0.2	0.2	0.4
East Anglia Two				0.00	0.01		0.0	0.1	0.1
Five Estuaries				0.00	0.01		0.0	0.1	0.1
Galloper				0.00	0.01		0.1	0.1	0.2
Green Volt	0.02	0.53	0.90	0.00	0.01	0.1	0.0	0.0	0.1
Hornsea Project One				0.00	0.01		0.0	0.0	0.0
Hornsea Project Two				0.00	0.01		0.0	0.0	0.0
Hornsea Project Three				0.00	0.01		0.1	0.1	0.3
Hornsea Four	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.1	0.1
Humber Gateway	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Inch Cape	0.06	0.53	0.90	0.00	0.01	0.7	0.1	0.0	0.9
Kentish Flats Extension				0.00	0.01		0.0	0.0	0.0
Kincardine	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Lincs		0.53	0.90	0.00	0.01		0.0	0.0	0.0
Moray East	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Moray West	0.00	0.53	0.90	0.00	0.01	0.0	0.1	0.0	0.1
Muir Mhor	0.02	0.53	0.90	0.00	0.01	0.6	0.0	0.1	0.7
Neart na Gaoithe	0.10	0.53	0.90	0.00	0.01	0.2	0.1	0.0	0.3

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Boreas				0.00	0.01		0.1	0.1	0.2
Norfolk Vanguard				0.00	0.01		0.1	0.1	0.2
North Falls				0.00	0.01		0.0	0.1	0.1
Ossian	0.06	0.53	0.90	0.00	0.01	0.8	0.0	0.0	0.9
Outer Dowsing				0.00	0.01		0.0	0.1	0.1
Pentland				0.00	0.01		0.0	0.0	0.0
Race Bank				0.00	0.01		0.1	0.0	0.1
Salamander	0.01	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
SeaGreen (Alpha & Bravo)	0.02	0.53	0.90	0.00	0.01	1.0	0.5	0.4	1.9
Sheringham Shoal Extension				0.00	0.01		0.0	0.0	0.0
Teesside	0.02	0.53	0.90	0.00	0.01	0.4	0.0	0.0	0.4
Thanet				0.00	0.01		0.0	0.0	0.0
Triton Knoll				0.00	0.01		0.3	0.3	0.7
West of Orkney				0.00	0.01		0.1	0.1	0.2
Westermost Rough	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									117.2
Change in baseline mortality (percentage point change)									1.138

Table 5.59: Predicted in-combination annual mortality rate of kittiwake at the St Abb's Head to Fast Castle Special Protection Area resulting from collision risk impacts (Applicant's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.07	0.78	0.90	0.0	0.01	0.1	0.0	0.0	0.1
Morven North	0.05	0.87	0.90	0.00	0.01	0.2	0.0	0.0	0.2
Total annual mortality (birds/annum)									0.3
Change in baseline mortality (percentage point change)									0.003
Tier 1 (Scenario 4)									
Aberdeen	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Aspen	0.04	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Beatrice	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.1	0.1
Berwick Bank	0.52	0.92	0.90	0.00	0.01	51.0	0.2	0.2	51.4
Blyth Demo	0.09	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Buchan	0.01	0.82	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Caledonia North	0.01	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Caledonia South	0.01	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.1
Cenos	0.05	0.87	0.90	0.00	0.01	0.1	0.0	0.0	0.1
Dogger Bank A + B	0.00	0.53	0.90	0.00	0.01	0.0	0.1	0.6	0.7
Dogger Bank South	0.02	0.53	0.90	0.00	0.01	0.4	0.1	0.2	0.7
Dogger Bank C + Sofia	0.00	0.53	0.90	0.00	0.01	0.0	0.1	0.4	0.5
Dudgeon Extension				0.00	0.01		0.0	0.0	0.0

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One				0.00	0.01		0.2	0.1	0.3
East Anglia One North				0.00	0.01		0.0	0.0	0.0
East Anglia Three				0.00	0.01		0.1	0.1	0.2
East Anglia Two				0.00	0.01		0.0	0.0	0.0
Five Estuaries				0.00	0.01		0.0	0.0	0.0
Galloper				0.00	0.01		0.0	0.1	0.1
Green Volt	0.02	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Hornsea Project One				0.00	0.01		0.0	0.0	0.0
Hornsea Project Two				0.00	0.01		0.0	0.0	0.0
Hornsea Project Three				0.00	0.01		0.1	0.1	0.1
Hornsea Four	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Humber Gateway	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Inch Cape	0.06	0.53	0.90	0.00	0.01	0.3	0.0	0.0	0.3
Kentish Flats Extension				0.00	0.01		0.0	0.0	0.0
Kincardine	0.00	0.95	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Lincs				0.00	0.01		0.0	0.0	0.0
Moray East	0.00	0.92	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Moray West	0.00	0.97	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Muir Mhor	0.02	0.53	0.90	0.00	0.01	0.2	0.0	0.0	0.2
Neart na Gaoithe	0.10	0.82	0.90	0.00	0.01	0.1	0.0	0.0	0.2

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Boreas				0.00	0.01		0.0	0.0	0.1
Norfolk Vanguard				0.00	0.01		0.0	0.1	0.1
North Falls				0.00	0.01		0.0	0.0	0.0
Ossian	0.06	0.84	0.90	0.00	0.01	0.4	0.0	0.0	0.4
Outer Dowsing				0.00	0.01		0.0	0.0	0.0
Pentland				0.00	0.01		0.0	0.0	0.0
Race Bank				0.00	0.01		0.0	0.0	0.0
Salamander	0.01	0.69	0.90	0.00	0.01	0.0	0.0	0.0	0.0
SeaGreen (Alpha & Bravo)	0.02	0.94	0.90	0.00	0.01	0.7	0.2	0.1	1.0
Sheringham Shoal Extension				0.00	0.01		0.0	0.0	0.0
Teesside	0.02	0.53	0.90	0.00	0.01	0.1	0.0	0.0	0.2
Thanet				0.00	0.01		0.0	0.0	0.0
Triton Knoll				0.00	0.01		0.1	0.1	0.3
West of Orkney				0.00	0.01		0.0	0.0	0.1
Westermost Rough	0.00	0.53	0.90	0.00	0.01	0.0	0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									57.8
Change in baseline mortality (percentage point change)									0.561

Table 5.60: Summary of population viability analysis results for in-combination collision impacts on the kittiwake feature of the St Abb's Head to Fast Castle Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	11,660	1.003	9.61	-	-	-
NatureScot	117.2	1.138	7,236	0.989	-31.90	0.987	0.622	14.7
Applicant	57.8	0.561	9,285	0.996	-12.90	0.993	0.792	30.6

Troup, Pennan and Lion's Heads Special Protection Area

5.5.2.70 The predicted impact on kittiwake at the Troup, Pennan and Lion's Heads SPA from the Morven Programme (Scenario 3) is presented in Table 5.61 for NatureScot's approach and Table 5.62 for the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total collision impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.2.71 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Troup, Pennan and Lion's Heads SPA in relation to collision risk associated with the Morven Programme (Scenario 3).

5.5.2.72 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the Troup, Pennan and Lion's Heads SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.2.73 The predicted in-combination impact on kittiwake at the Troup, Pennan and Lion's Heads SPA is presented in Table 5.61 for NatureScot's approach and Table 5.62 for the Applicant's approach. The total in-combination impact apportioned to the kittiwake population at the Troup, Pennan and Lion's Heads SPA is 27 (Applicant's approach) to 72 (NatureScot's approach) birds. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.2.74 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's and the Applicant's advocated parameters indicates a median CPS of 0.869 to 0.950; (i.e. the population after 35 years, would be 5.0 to 13.1% smaller than the CPS with a 50th percentile value of 37.8 to 45.2 (Table 5.63)). In terms of the population size, this means that the median of the impacted population fell within the 38th to 45th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.996 to 0.999 which translates to a growth rate 0.1 to 0.4% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population. However, it is also important to note that the contribution of Morven South to the in-combination total is only 0.3 to 0.4% for the Applicant and NatureScot approaches respectively.

5.5.2.75 The population of kittiwake at Troup, Pennan and Lion's Heads SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the Troup, Pennan and Lion's Heads SPA decreased between the Seabird 2000 and Seabirds Count national censuses and has continued to decrease since Seabirds Count (BTO *et al*, 2025).

5.5.2.76 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.2.5. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.2.6.

5.5.2.77 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhòr, Ossian and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South.The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.2.78 When the factors discussed in paragraphs 5.5.2.5 and 5.5.2.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered. The contribution of Morven South to the in-combination impact, particularly under NatureScot's recommended parameter scenario is also not considered to materially alter the current in-combination impact.

5.5.2.79 Impacts on kittiwake that undermine the conservation objectives of the at the Troup, Pennan and Lion's Heads SPA will therefore not occur as a result of in-combination collision risk impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.2.80 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Troup, Pennan and Lion's Heads SPA in relation to collision risk impacts associated with Morven South in-combination with other plans and projects.

Table 5.61: Predicted in-combination annual mortality rate of kittiwake at the Troup, Pennan and Lion's Heads Special Protection Area resulting from collision risk impacts (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.05	0.53	0.90	0.02	0.03	0.2	0.0	0.1	0.3
Morven North	0.06	0.53	0.90	0.02	0.03	0.5	0.0	0.1	0.6
Total annual mortality (birds/annum)									0.8
Change in baseline mortality (percentage point change)									0.004
Tier 1 (Scenario 4)									
Aberdeen	0.00	0.53	0.90	0.02	0.03	0.0	0.1	0.0	0.1
Aspen	0.06	0.53	0.90	0.02	0.03	0.2	0.0	0.1	0.3
Beatrice	0.03	0.53	0.90	0.02	0.03	1.0	0.2	0.6	1.8
Berwick Bank	0.01	0.53	0.90	0.02	0.03	1.0	2.5	3.5	6.9
Blyth Demo	0.01	0.53	0.90	0.02	0.03	0.0	0.0	0.0	0.1
Buchan	0.21	0.53	0.90	0.02	0.03	0.4	0.0	0.1	0.5
Caledonia North	0.16	0.53	0.90	0.02	0.03	1.5	0.1	0.1	1.7
Caledonia South	0.29	0.53	0.90	0.02	0.03	6.0	0.1	0.1	6.2
Cenos	0.12	0.53	0.90	0.02	0.03	0.5	0.1	0.1	0.6
Dogger Bank A + B				0.02	0.03		1.6	6.6	8.2
Dogger Bank South				0.02	0.03		1.7	2.9	4.6
Dogger Bank C + Sofia				0.02	0.03		1.2	4.7	5.9
Dudgeon Extension				0.02	0.03		0.1	0.1	0.2

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One				0.02	0.03		2.4	0.9	3.4
East Anglia One North				0.02	0.03		0.1	0.3	0.5
East Anglia Three				0.02	0.03		1.0	0.7	1.7
East Anglia Two				0.02	0.03		0.1	0.3	0.4
Five Estuaries				0.02	0.03		0.2	0.4	0.5
Galloper				0.02	0.03		0.4	0.6	1.0
Green Volt	0.19	0.53	0.90	0.02	0.03	0.5	0.1	0.1	0.7
Hornsea Project One				0.02	0.03		0.1	0.1	0.2
Hornsea Project Two				0.02	0.03		0.1	0.1	0.2
Hornsea Project Three				0.02	0.03		0.6	0.6	1.2
Hornsea Four				0.02	0.03		0.2	0.2	0.4
Humber Gateway				0.02	0.03		0.0	0.0	0.1
Inch Cape	0.00	0.53	0.90	0.02	0.03	0.0	0.4	0.1	0.5
Kentish Flats Extension				0.02	0.03		0.0	0.0	0.0
Kincardine	0.02	0.53	0.90	0.02	0.03	0.1	0.1	0.0	0.3
Lincs		0.53	0.90	0.02	0.03		0.0	0.0	0.0
Moray East	0.25	0.53	0.90	0.02	0.03	1.8	0.0	0.2	2.0
Moray West	0.07	0.53	0.90	0.02	0.03	1.8	0.4	0.1	2.3
Muir Mhor	0.15	0.53	0.90	0.02	0.03	4.8	0.0	0.2	5.1
Neart na Gaoithe	0.00	0.53	0.90	0.02	0.03	0.0	0.3	0.0	0.3

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Boreas				0.02	0.03		0.5	0.3	0.8
Norfolk Vanguard				0.02	0.03		0.2	0.6	0.8
North Falls				0.02	0.03		0.1	0.3	0.4
Ossian	0.07	0.53	0.90	0.02	0.03	0.9	0.1	0.2	1.2
Outer Dowsing				0.02	0.03		0.1	0.4	0.5
Pentland	0.00	0.53	0.90	0.02	0.03	0.0	0.0	0.0	0.0
Race Bank				0.02	0.03		0.3	0.1	0.4
Salamander	0.16	0.53	0.90	0.02	0.03	0.7	0.0	0.0	0.7
SeaGreen (Alpha & Bravo)	0.00	0.53	0.90	0.02	0.03	0.0	2.3	1.5	3.8
Sheringham Shoal Extension				0.02	0.03		0.0	0.0	0.0
Teesside				0.02	0.03		0.2	0.2	0.4
Thanet				0.02	0.03		0.0	0.0	0.0
Triton Knoll				0.02	0.03		1.5	1.4	2.9
West of Orkney	0.01	0.53	0.90	0.02	0.03	0.1	0.3	0.6	1.1
Westermost Rough				0.02	0.03		0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									71.7
Change in baseline mortality (percentage point change)									0.338

Table 5.62: Predicted in-combination annual mortality rate of kittiwake at the Troup, Pennan and Lion's Heads Special Protection Area resulting from collision risk impacts (Applicant's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.05	0.78	0.90	0.02	0.03	0.1	0.0	0.0	0.1
Morven North	0.06	0.87	0.90	0.02	0.03	0.2	0.0	0.0	0.2
Total annual mortality (birds/annum)									0.3
Change in baseline mortality (percentage point change)									0.001
Tier 1 (Scenario 4)									
Aberdeen	0.00	0.53	0.90	0.02	0.03	0.0	0.0	0.0	0.0
Aspen	0.06	0.53	0.90	0.02	0.03	0.1	0.0	0.0	0.1
Beatrice	0.03	0.53	0.90	0.02	0.03	0.4	0.1	0.2	0.7
Berwick Bank	0.01	0.92	0.90	0.02	0.03	0.5	0.7	1.0	2.3
Blyth Demo	0.01	0.53	0.90	0.02	0.03	0.0	0.0	0.0	0.0
Buchan	0.21	0.82	0.90	0.02	0.03	0.2	0.0	0.0	0.2
Caledonia North	0.16	0.53	0.90	0.02	0.03	0.5	0.0	0.0	0.5
Caledonia South	0.29	0.53	0.90	0.02	0.03	1.8	0.0	0.0	1.8
Cenos	0.12	0.87	0.90	0.02	0.03	0.2	0.0	0.0	0.3
Dogger Bank A + B				0.02	0.03		0.6	2.6	3.2
Dogger Bank South				0.02	0.03		0.5	0.9	1.4
Dogger Bank C + Sofia				0.02	0.03		0.5	1.8	2.3
Dudgeon Extension				0.02	0.03		0.0	0.0	0.1

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One				0.02	0.03		1.0	0.4	1.3
East Anglia One North				0.02	0.03		0.0	0.1	0.2
East Anglia Three				0.02	0.03		0.4	0.3	0.7
East Anglia Two				0.02	0.03		0.0	0.1	0.1
Five Estuaries				0.02	0.03		0.1	0.1	0.2
Galloper				0.02	0.03		0.2	0.2	0.4
Green Volt	0.19	0.53	0.90	0.02	0.03	0.1	0.0	0.0	0.2
Hornsea Project One				0.02	0.03		0.0	0.0	0.1
Hornsea Project Two				0.02	0.03		0.0	0.0	0.1
Hornsea Project Three				0.02	0.03		0.2	0.2	0.5
Hornsea Four				0.02	0.03		0.1	0.1	0.1
Humber Gateway				0.02	0.03		0.0	0.0	0.0
Inch Cape	0.00	0.53	0.90	0.02	0.03	0.0	0.2	0.0	0.2
Kentish Flats Extension				0.02	0.03		0.0	0.0	0.0
Kincardine	0.02	0.95	0.90	0.02	0.03	0.1	0.1	0.0	0.2
Lincs				0.02	0.03		0.0	0.0	0.0
Moray East	0.25	0.92	0.90	0.02	0.03	1.2	0.0	0.1	1.3
Moray West	0.07	0.97	0.90	0.02	0.03	1.3	0.1	0.1	1.5
Muir Mhor	0.15	0.53	0.90	0.02	0.03	1.4	0.0	0.1	1.5
Neart na Gaoithe	0.00	0.82	0.90	0.02	0.03	0.0	0.1	0.0	0.1
Norfolk Boreas				0.02	0.03		0.2	0.1	0.3

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Vanguard				0.02	0.03		0.1	0.2	0.3
North Falls				0.02	0.03		0.0	0.1	0.1
Ossian	0.07	0.84	0.90	0.02	0.03	0.4	0.0	0.1	0.5
Outer Dowsing				0.02	0.03		0.0	0.1	0.1
Pentland	0.00	0.53	0.90	0.02	0.03	0.0	0.0	0.0	0.0
Race Bank				0.02	0.03		0.1	0.0	0.1
Salamander	0.16	0.69	0.90	0.02	0.03	0.3	0.0	0.0	0.3
SeaGreen (Alpha & Bravo)	0.00	0.94	0.90	0.02	0.03	0.0	0.9	0.6	1.5
Sheringham Shoal Extension				0.02	0.03		0.0	0.0	0.0
Teesside				0.02	0.03		0.1	0.1	0.1
Thanet				0.02	0.03		0.0	0.0	0.0
Triton Knoll				0.02	0.03		0.6	0.5	1.1
West of Orkney	0.01	0.53	0.90	0.02	0.03	0.0	0.1	0.2	0.3
Westermost Rough				0.02	0.03		0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									26.7
Change in baseline mortality (percentage point change)									0.126

Table 5.63: Summary of population viability analysis results for in-combination collision impacts on the kittiwake feature of the Troup, Pennan and Lion's Heads Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	24,166	1.002	8.75	-	-	-
NatureScot	71.7	0.338	21,008	0.999	-5.22	0.996	0.869	37.8
Applicant	26.7	0.126	22,903	1.001	3.69	0.999	0.950	45.2

Gannet

5.5.2.81 Collision risk estimates for gannet apportioned to the Forth Islands SPA are presented on a seasonal basis in Table 5.64. The annual apportioned impact predicted for the Forth Islands SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance.

5.5.2.82 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Forth Islands Special Protection Area

5.5.2.83 The predicted impact on gannet at the Forth Islands SPA from the Morven Programme (Scenario 3) is presented in Table 5.64 for NatureScot's approach and Table 5.65 for the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total collision impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.2.84 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Forth Islands SPA in relation to collision risk associated with the Morven Programme (Scenario 3).

5.5.2.85 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of gannet from the Forth Islands SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.2.86 The predicted in-combination impact on gannet at the Forth Islands SPA is presented in Table 5.64 for NatureScot's approach and Table 5.65 for the Applicant's approach. The total in-combination impact apportioned to the gannet population at the Forth Islands SPA is 180 (Applicant's approach) to 321 (NatureScot's approach) birds. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.2.87 The PVA model conducted for gannet when applying the annual season impact calculated using NatureScot's and the Applicant's advocated parameters indicates a median CPS of 0.916 to 0.952; (i.e. the population after 35 years, would be 4.8 to 8.4% smaller than the CPS with a 50th percentile value of 36.9 to 42.7 (Table 5.66)). In terms of the population size, this means that the median of the impacted population fell within the 37th to 43rd percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.998 to 0.999 which translates to a growth rate 0.1 to 0.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.2.88 The population of gannet at the Forth Islands SPA is currently above the population at designation (Table 5.8). The population of gannet at the Forth Islands SPA increased between the Seabird 2000 and Seabirds Count national censuses but has decreased since Seabirds Count, primarily due to HPAI (BTO *et al*, 2025; Burton *et al*, 2025).

5.5.2.89 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.2.5. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.2.6.

5.5.2.90 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhòr, Ossian, Salamander and West of Orkney. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South.The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.2.91 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI.

5.5.2.92 When the factors discussed in paragraphs 5.5.2.5 and 5.5.2.6 and the compensation required at other projects are taken into account it is considered that impacts on gannet that undermine the conservation objectives of the Forth Islands SPA will therefore not occur as a result of in-combination collision risk impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.2.93 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Forth Islands SPA in relation to collision risk impacts associated with Morven South in-combination with other plans and projects.

Table 5.64: Predicted in-combination annual mortality rate of gannet at the Forth Islands Special Protection Area resulting from collision risk impacts (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Morven Programme (Scenario 3)									
Morven South	0.87	0.55	0.90	0.24	0.31	5.5	0.0	0.1	5.6
Morven North	0.87	0.55	0.90	0.24	0.31	4.2	0.2	0.1	4.4
Total annual mortality (birds/annum)									10.0
Change in baseline mortality (percentage point change)									0.007
Tier 1 (Scenario 4)									
Aberdeen	0.81	0.55	0.90	0.24	0.31	1.5	0.2	0.0	1.7
Aspen	0.63	0.55	0.90	0.24	0.31	4.8	0.2	0.3	5.4
Beatrice	0.38	0.55	0.90	0.24	0.31	8.1	1.2	0.7	10.0
Berwick Bank	0.97	0.55	0.90	0.24	0.31	52.8	0.9	0.2	53.9
Blyth Demo	0.72	0.55	0.90	0.24	0.31	1.1	0.1	0.2	1.4
Buchan	0.35	0.55	0.90	0.24	0.31	0.5	0.1	0.0	0.6
Caledonia North	0.39	0.55	0.90	0.24	0.31	0.9	0.1	0.0	1.0
Caledonia South	0.38	0.55	0.90	0.24	0.31	2.0	0.1	0.0	2.1
Cenos	0.80	0.55	0.90	0.24	0.31	6.8	0.2	0.1	7.1
Dogger Bank A + B	0.59	0.55	0.90	0.24	0.31	1.6	0.3	0.2	2.1
Dogger Bank South	0.00	0.55	0.90	0.24	0.31	0.0	3.1	0.6	3.7
Dogger Bank C + Sofia	0.66	0.55	0.90	0.24	0.31	4.9	0.4	0.5	5.8

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Dudgeon	0.00	0.55	0.90	0.24	0.31	0.0	1.5	0.7	2.2
Dudgeon Extension	0.00	0.55	0.90	0.24	0.31	0.0	0.1	0.0	0.1
East Anglia One	0.00	0.55	0.90	0.24	0.31		6.5	0.4	6.9
East Anglia One North	0.00	0.55	0.90	0.24	0.31		0.6	0.1	0.7
East Anglia Three	0.00	0.55	0.90	0.24	0.31		1.6	0.6	2.2
East Anglia Two	0.00	0.55	0.90	0.24	0.31		1.3	0.3	1.6
Five Estuaries	0.00	0.55	0.90	0.24	0.31		0.6	0.1	0.7
Galloper	0.00	0.55	0.90	0.24	0.31		1.2	0.7	1.9
Green Volt	0.56	0.55	0.90	0.24	0.31	2.7	0.0	0.1	2.8
Hornsea Project One	0.00	0.55	0.90	0.24	0.31	0.0	0.3	0.3	0.5
Hornsea Project Two	0.00	0.55	0.90	0.24	0.31	0.0	0.6	0.3	0.9
Hornsea Project Three	0.00	0.55	0.90	0.24	0.31	0.0	0.2	0.3	0.6
Hornsea Four	0.00	0.55	0.90	0.24	0.31	0.0	0.2	0.1	0.4
Humber Gateway	0.00	0.55	0.90	0.24	0.31	0.0	0.1	0.2	0.4
Inch Cape	1.00	0.55	0.90	0.24	0.31	36.6	0.3	0.3	37.2
Kentish Flats Extension	0.00	0.55	0.90	0.24	0.31		0.0	0.0	0.0

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Kincardine	0.38	0.55	0.90	0.24	0.31	2.6	0.0	0.0	2.7
Lincs	0.00	0.55	0.90	0.24	0.31	0.0	0.0	0.1	0.1
Moray East	0.00	0.55	0.90	0.24	0.31	0.0	0.3	0.1	0.4
Moray West	0.00	0.55	0.90	0.24	0.31	0.0	0.1	0.0	0.1
Muir Mhor	0.62	0.55	0.90	0.24	0.31	2.6	0.3	0.0	2.9
Neart na Gaoithe	1.00	0.55	0.90	0.24	0.31	31.0	0.5	0.6	32.1
Norfolk Boreas	0.00	0.55	0.90	0.24	0.31	0.0	0.6	0.3	0.9
Norfolk Vanguard	0.00	0.55	0.90	0.24	0.31	0.0	0.9	0.4	1.3
North Falls	0.00	0.55	0.90	0.24	0.31		0.2	0.2	0.4
Ossian	0.80	0.55	0.90	0.24	0.31	11.3	0.3	0.0	11.6
Outer Dowsing	0.00	0.55	0.90	0.24	0.31	0.0	0.1	0.0	0.1
Race Bank	0.00	0.55	0.90	0.24	0.31	0.0	0.3	0.3	0.6
Rampion	0.00	0.55	0.90	0.24	0.31		0.5	0.1	0.6
Rampion 2	0.00	0.55	0.90	0.24	0.31		0.2	0.2	0.4
Salamander	0.46	0.55	0.90	0.24	0.31	1.2	0.1	0.0	1.2
SeaGreen (Alpha & Bravo)	0.99	0.55	0.90	0.24	0.31	93.6	1.2	1.6	96.3
Sheringham Shoal Extension	0.00	0.55	0.90	0.24	0.31	0.0	0.0	0.0	0.0
Teesside	0.36	0.55	0.90	0.24	0.31	0.8	0.0	0.0	0.8

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Thanet	1.00	0.55	0.90	0.24	0.31		0.0	0.0	0.0
Triton Knoll	0.00	0.55	0.90	0.24	0.31	0.0	2.6	1.7	4.2
Westermost Rough	0.05	0.55	0.90	0.24	0.31	0.0	0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									320.5
Change in baseline mortality (percentage point change)									0.213

Table 5.65: Predicted in-combination annual mortality rate of gannet at the Forth Islands Special Protection Area resulting from collision risk impacts (Applicant's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Morven Programme (Scenario 3)									
Morven South	0.87	0.95	0.90	0.24	0.31	2.5	0.0	0.1	2.6
Morven North	0.87	0.96	0.90	0.24	0.31	2.0	0.2	0.1	2.3
Total annual mortality (birds/annum)									4.9
Change in baseline mortality (percentage point change)									0.003
Tier 1 (Scenario 4)									
Aberdeen	0.81	0.55	0.90	0.24	0.31	0.4	0.2	0.0	0.7
Aspen	0.63	0.55	0.90	0.24	0.31	4.8	0.2	0.3	5.4
Beatrice	0.38	0.55	0.90	0.24	0.31	2.4	1.2	0.7	4.3
Berwick Bank	0.97	0.99	0.90	0.24	0.31	28.4	0.9	0.2	29.5
Blyth Demo	0.72	0.55	0.90	0.24	0.31	0.3	0.1	0.2	0.6
Buchan	0.35	0.91	0.90	0.24	0.31	0.2	0.1	0.0	0.3
Caledonia North	0.39	0.55	0.90	0.24	0.31	0.9	0.1	0.0	1.0
Caledonia South	0.38	0.55	0.90	0.24	0.31	2.0	0.1	0.0	2.1
Cenos	0.80	0.98	0.90	0.24	0.31	3.6	0.2	0.1	3.9
Dogger Bank A + B	0.59	0.55	0.90	0.24	0.31	0.5	0.3	0.2	1.0
Dogger Bank South	0.00	0.55	0.90	0.24	0.31	0.0	3.1	0.6	3.7
Dogger Bank C + Sofia	0.66	0.55	0.90	0.24	0.31	1.5	0.4	0.5	2.3
Dudgeon Extension	0.00	0.55	0.90	0.24	0.31	0.0	1.5	0.7	2.2
East Anglia One	0.00	0.55	0.90	0.24	0.31	0.0	0.1	0.0	0.1

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
East Anglia One North	0.00	0.55	0.90	0.24	0.31		6.5	0.4	6.9
East Anglia Three	0.00	0.55	0.90	0.24	0.31		0.6	0.1	0.7
East Anglia Two	0.00	0.55	0.90	0.24	0.31		1.6	0.6	2.2
Five Estuaries	0.00	0.55	0.90	0.24	0.31		1.3	0.3	1.6
Galloper	0.00	0.55	0.90	0.24	0.31		0.6	0.1	0.7
Green Volt	0.00	0.55	0.90	0.24	0.31		1.2	0.7	1.9
Hornsea Project One	0.56	0.55	0.90	0.24	0.31	0.8	0.0	0.1	1.0
Hornsea Project Two	0.00	0.62	0.90	0.24	0.31	0.0	0.3	0.3	0.5
Hornsea Project Three	0.00	0.72	0.90	0.24	0.31	0.0	0.6	0.3	0.9
Hornsea Four	0.00	0.73	0.90	0.24	0.31	0.0	0.2	0.3	0.6
Humber Gateway	0.00	0.55	0.90	0.24	0.31	0.0	0.2	0.1	0.4
Inch Cape	0.00	0.55	0.90	0.24	0.31	0.0	0.1	0.2	0.4
Kentish Flats Extension	1.00	0.55	0.90	0.24	0.31	11.0	0.3	0.3	11.6
Kincardine	0.00	0.55	0.90	0.24	0.31		0.0	0.0	0.0
Lincs	0.38	0.79	0.90	0.24	0.31	1.1	0.0	0.0	1.2
Moray East	0.00	0.55	0.90	0.24	0.31	0.0	0.0	0.1	0.1
Moray West	0.00	0.55	0.90	0.24	0.31	0.0	0.3	0.1	0.4
Muir Mhor	0.62	0.55	0.90	0.24	0.31	0.8	0.3	0.0	1.1
Neart na Gaoithe	1.00	0.98	0.90	0.24	0.31	16.4	0.5	0.6	17.5
Norfolk Boreas	0.00	0.55	0.90	0.24	0.31	0.0	0.6	0.3	0.9

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immature	Sabbatical						
Norfolk Vanguard	0.00	0.55	0.90	0.24	0.31	0.0	0.9	0.4	1.3
North Falls	0.00	0.69	0.90	0.24	0.31		0.2	0.2	0.4
Ossian	0.80	0.98	0.90	0.24	0.31	6.0	0.3	0.0	6.3
Outer Dowsing	0.00	0.90	0.90	0.24	0.31	0.0	0.1	0.0	0.1
Pentland	0.00	0.55	0.90	0.24	0.31	0.0	0.3	0.3	0.6
Race Bank	0.00	0.55	0.90	0.24	0.31		0.5	0.1	0.6
Salamander	0.00	0.55	0.90	0.24	0.31		0.2	0.2	0.4
SeaGreen (Alpha & Bravo)	0.46	0.94	0.90	0.24	0.31	0.6	0.1	0.0	0.7
Sheringham Shoal Extension	0.99	0.97	0.90	0.24	0.31	49.5	1.2	1.6	52.2
Teesside	0.00	0.55	0.90	0.24	0.31	0.0	0.0	0.0	0.0
Thanet	0.36	0.55	0.90	0.24	0.31	0.8	0.0	0.0	0.8
Triton Knoll	1.00	0.55	0.90	0.24	0.31		0.0	0.0	0.0
West of Orkney	0.00	0.55	0.90	0.24	0.31	0.0	2.6	1.7	4.2
Westermost Rough	0.05	0.55	0.90	0.24	0.31	0.0	0.0	0.0	0.0
Total annual mortality (birds/annum) (all projects including Morven North and Morven South)									180.2
Change in baseline mortality (percentage point change)									0.120

Table 5.66: Summary of population viability analysis results for in-combination collision impacts on the gannet feature of the Forth Islands Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	304,843	1.012	53.73	-	-	-
NatureScot	320.5	0.213	279,346	1.010	40.76	0.998	0.916	36.9
Applicant	180.2	0.120	290,395	1.011	46.32	0.999	0.952	42.7

Outer Firth of Forth and St Andrew's Bay Complex SPA

5.5.2.94 Of those SPAs for which in-combination collision risk impacts have been assessed, the Outer Firth of Forth and St Andrew's Bay Complex SPA supports kittiwake from the St Abb's Head to Fast Castle SPA, the Fowlsheugh SPA, the Buchan Ness to Collieston Coast SPA and the Troup, Pennan and Lion's Heads SPA and gannet from the Forth Islands SPA.

5.5.2.95 Conclusions of no AEOI have been reached for all of the SPAs for which in-combination collision risk impacts have been considered for kittiwake and gannet from which birds are supported by the Outer Firth of Forth and St Andrew's Bay Complex SPA with the exception of kittiwake at the St Abb's Head to Fast Castle SPA.

5.5.2.96 As the Outer Firth of Forth and St Andrew's Bay Complex SPA supports kittiwake from this colony an AEOI is also concluded for the Outer Firth of Forth and St Andrew's Bay Complex SPA in relation to in-combination collision risk impacts on kittiwake.

5.5.2.97 It is therefore concluded that there is the potential for an AEOI on the kittiwake population of the Outer Firth of Forth and St Andrew's Bay Complex SPA in relation to collision risk impacts associated with Morven South and other plans and projects.

Conclusion

5.5.2.98 Potential effects from in-combination collision risk impacts on the relevant conservation objectives of each SPA (as presented in Table 5.9) are discussed in Appendix A. Impacts that undermine the conservation objectives will not occur as a result of in-combination collision risk impacts for the following SPAs and relevant offshore ornithological qualifying features:

- Kittiwake at the Buchan Ness to Collieston Coast SPA;
- Kittiwake at the East Caithness Cliffs SPA;
- Kittiwake at the Flamborough and Filey Coast SPA;
- Kittiwake at the Fowlsheugh SPA;
- Kittiwake at the Troup, Pennan and Lion's Heads SPA;
- Gannet at the Forth Islands SPA.

5.5.2.99 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI of any of these SPAs in relation to in-combination collision risk impacts associated with Morven South in-combination with other plans and projects. For breeding seabird assemblage features the conclusions reached for individual qualifying features and named qualifiers are considered equally applicable to the assemblage features.

5.5.2.100 Impacts that undermine the conservation objectives are considered likely to occur as a result of in-combination collision risk impacts on the kittiwake and breeding seabird assemblage qualifying features of the St Abb's Head to Fast Castle SPA. This is also considered applicable to kittiwake as a qualifying feature of the Outer Firth of Forth and St Andrew's Bay Complex SPA as this SPA supports kittiwake from the St Abb's Head to Fast Castle SPA.

5.5.2.101 Therefore, it can be concluded beyond reasonable scientific doubt that there will be an AEOI on kittiwake and breeding seabird assemblage features of the St Abb's Head to Fast Castle SPA and Outer Firth of Forth and St Andrew's Bay Complex SPA in relation to in-combination collision risk impacts associated with Morven South in-combination with other plans and projects.

5.5.3 Displacement

5.5.3.1 The LSE[2] assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1) identified that during the operations and maintenance phase, the potential for LSE[2] could not be ruled out for potential in-combination displacement impacts. The impact predicted for Morven South alone exceeded the 0.2 birds/annum impact

threshold as recommended by NatureScot for the following sites and relevant offshore ornithological features and therefore they are progressed to in-combination assessments:

- Kittiwake at the Buchan Ness to Collieston Coast SPA;
- Kittiwake at the East Caithness Cliffs SPA;
- Kittiwake at the Flamborough and Filey Coast SPA;
- Kittiwake at the Fowlsheugh SPA;
- Guillemot at the Buchan Ness to Collieston Coast SPA;
- Guillemot at the Fowlsheugh SPA;
- Guillemot at the Forth Islands SPA;
- Guillemot at the St Abb's Head to Fast Castle SPA;
- Guillemot at the Troup, Pennan and Lion's Heads SPA;
- Razorbill at the East Caithness Cliffs SPA;
- Razorbill at the Flamborough and Filey Coast SPA;
- Razorbill at the Forth Islands SPA;
- Razorbill at the Fowlsheugh SPA;
- Razorbill at the St Abb's Head to Fast Castle SPA;
- Puffin at the Coquet Island SPA;
- Puffin at the Farne Islands SPA;
- Puffin at the Forth Islands SPA;
- Puffin at the Foula SPA;
- Puffin at the Hermaness, Saxa Vord and Valla Field SPA;
- Gannet at the Forth Islands SPA;
- Gannet at the Hermaness, Saxa Ford and Valla Field SPA.

5.5.3.2 The predicted impact for all other SPA and qualifying features combinations included in Table 5.29 and Table 5.30 Is considered to be undetectable against the existing baseline mortality of each population and therefore Morven South will make no measurable contribution to any existing in-combination impact.

5.5.3.3 Following pre-application advice from NatureScot (July 2025), fulmar is not progressed to the in-combination stage for any SPA.

5.5.3.4 In addition, a number of SPAs that support the breeding populations of features from SPAs included in the list above are also included in the in-combination assessment. This is applicable to the Outer Firth of Forth and St Andrew's Bay Complex SPA which supports kittiwake from the Fowlsheugh SPA and the Buchan Ness to Collieston Coast SPA, guillemot from the Forth Islands SPA, the St Abb's Head to Fast Castle SPA, the Fowlsheugh SPA and the Buchan Ness to Collieston Coast SPA, razorbill at the Forth Islands SPA, puffin at the Forth Islands SPA and gannet from the Forth Islands SPA. Consideration is also given to the Northumberland Marine SPA which supports kittiwake from the Farne Islands SPA and puffin from Coquet Island SPA and the Farne Islands SPA.

5.5.3.5 The MDS considered for this in-combination assessment is shown in Table 5.67.

5.5.3.6 Throughout the following assessment sections it is important to take account of the following uncertainties associated with the PVA modelling used to inform the assessment:

- Over-estimation of in-combination impacts. The PVA modelling does not account for changes in the predicted in-combination total due to the decommissioning of projects considered in-combination. Over the lifetime of Morven South the in-combination impact will reduce significantly when licences for current projects expire and decommissioning occurs. The PVA metrics are therefore highly precautionary.
- No consideration has been made for density dependent compensation of demographic parameters within the modelled population, nor immigration, both of which could reduce the magnitude of any population change.

Table 5.67: Maximum Design Scenario considered for the assessment of potential impacts to offshore ornithological features due to displacement in the operations and maintenance phase of Morven South in-combination with other plans and projects

Project phase	MDS	Justification
Operation and maintenance	There are no collision risk impacts associated with the MHPGC Project and MBAGC Project and therefore only scenarios 3 and 4 are relevant to the in-combination assessment of displacement. **Scenario 3** MDS as described for Morven South (Table 5.28), assessed in-combination with Morven North. **Scenario 4** MDS as described for Morven South (Table 5.28), assessed in-combination with Morven North, and the following other projects and plans: **Tier 1** • Aberdeen • Aspen • Beatrice • Berwick Bank • Blyth Demo • Buchan • Caledonia • Cenos • Dogger Bank A + B • Dogger Bank C + Sofia • Dogger Bank South • Dudgeon • East Anglia One • East Anglia One North • East Anglia Three	There is potential for an in-combination effect from operations and maintenance activities and so a quantitative in-combination assessment is required.

Project phase	MDS	Justification
	• East Anglia Two • Five Estuaries • Galloper • Green Volt • Gunfleet Sands 3 • Hornsea Four • Hornsea Project One • Hornsea Project Three • Hornsea Project Two • Hywind • Inch Cape • Kentish Flats • Kentish Flats Extension • Kincardine • Lincs • Moray East • Moray West • Muir Mhor • Neart na Gaoithe • Norfolk Boreas • Norfolk Vanguard • North Falls • Ossian • Outer Dowsing • Pentland • Race Bank • Rampion	

Project phase	MDS	Justification
	• Rampion 2 • Salamander • SeaGreen (Alpha & Bravo) • Sheringham Shoal and Dudgeon Extensions • Thanet • Triton Knoll • West of Orkney • Westermost Rough	

5.5.3.7 There is potential for in-combination displacement as a result of operational activities associated with Morven South in-combination with other developments. During the operations and maintenance phase, the presence of offshore wind turbines has the potential to directly disturb and displace seabirds that would normally reside within and around the area of sea where offshore wind farms are located. Displacement may contribute to individual birds experiencing fitness consequences, which at an extreme level could lead to the mortality of individuals. In-combination displacement therefore has the potential to lead to effects on a wider scale.

5.5.3.8 The SPAs and associated qualifying features considered in relation to in-combination collision risk impacts are identified above. The predicted impact from Morven South alone for all of these features surpassed the 0.2 birds/annum recommended by NatureScot (pre-application consultation undertaken in January 2025; Table 2.1) as a threshold for when an in-combination assessment is required.

5.5.3.9 The projects of relevance to the in-combination assessment of displacement are identified in Table 5.67. There are no displacement impacts associated with the MHPGC Project or MBAGC Project. Whilst there may be disturbance effects associated with the MHPGC Project or MBAGC Project such impacts will be short-term in nature and highly unlikely to be detectable and will not contribute to any existing in-combination impact. The whole project assessments associated with Scenario 1 and 2 are therefore not required and consideration of the MHPGC Project or MBAGC Project as part of Scenario 3 is also not required. Scenario 3 will therefore incorporate Morven South and Morven North only.

5.5.3.10 Data used within the assessment of in-combination displacement is based on published information produced by the respective project developers. The assessments undertaken for these projects were conducted based on the recommended approach at the time of application. Whilst the current guidance for displacement assessment requires the use of mean-peak population estimates, this has not always been the case. In order to ensure a consistent approach, where mean-peak population estimates are unavailable, either because a project's assessment was undertaken prior to the use of mean-peak population estimates or because such data are not presented in project-specific documentation, mean-peak population estimates have been calculated using data for the project in question. In some cases this requires the use of data from project areas other than the now recommended project plus 2km buffer. In these cases data has been corrected based on the difference between the project area used and the project area plus a 2km buffer. The basis of this approach has been used within the assessments for multiple offshore wind farms in UK waters since its first application for the Dogger Bank Creyke Beck and Dogger Bank Teesside projects.

5.5.3.11 Breeding season apportioning values are comprised of three factors, a colony proportion, an immature proportion and a sabbatical proportion. Where practicable the colony proportion applicable to an SPA for each project has been obtained from project-specific documentation. However, for some projects, especially older projects, apportioning was not undertaken. For these projects, the apportioning values presented in MacArthur Green (2024) have been used. When calculating in-combination values following NatureScot's approach, immature proportions use those values recommended by NatureScot as part of pre-application consultation for Morven South have been applied to all projects. For the Applicant's approach, immature proportions have been obtained from project-specific literature where these are available. For projects where they are not available the immature proportions recommended by NatureScot have been applied. For sabbatical proportions, the values recommended by NatureScot have been used in both NatureScot's and the Applicant's approach.

5.5.3.12 In non-breeding seasons, apportioning values have been calculated using population data from Furness (2015) with the exception of guillemot, For guillemot, project specific values have been used for all seasons. Unapportioned population estimates for all species at all projects are presented in Volume 2, Chapter 11: Offshore Ornithology of the EIA Report.

5.5.3.13 The Morven Programme (Scenario 3) assessment has been conducted assuming that the impacts from Morven South and Morven North are simply additive. This is however, an over-simplification. The displacement analysis incorporates mean-peak population estimates from the relevant array area plus a 2km buffer. As the Morven South and Morven North boundaries are adjacent to one another the application of a 2km buffer results in an overlap between the areas incorporated into the displacement analyses for both projects. No attempt has been made to quantify the extent of the over-estimate in the assessments presented in the following sections and therefore the assessments for the Morven Programme (Scenario 3), and therefore the in-combination assessment, incorporate a degree of over-estimation for all species.

5.5.3.14 In all tables in this section individual project population estimates and total population estimates are rounded to whole numbers. All underlying calculations use non-rounded numbers and therefore totals may not match totals derived from constituent whole numbers.

Operation and maintenance phase

Kittiwake

5.5.3.15 Mean-peak population estimates for kittiwake apportioned to each of the SPAs identified in paragraph 5.5.3.1 are presented on a seasonal basis in the following SPA-specific sections. Impacts predicted for each SPA using the displacement and mortality rates advocated by NatureScot and the Applicant are also provided. The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance

5.5.3.16 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Buchan Ness to Collieston Coast Special Protection Area

5.5.3.17 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.68 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.18 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Buchan Ness to Collieston Coast SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.68: Predicted annual mortality of kittiwake at the Buchan Ness to Collieston Coast Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Pre-breeding	Annual
NatureScot's approach				
Morven South	0.1 to 0.2	0.0 to 0.0	0.0 to 0.0	0.1 to 0.3
Morven North	0.5 to 1.6	0.0 to 0.1	0.0 to 0.0	0.6 to 1.7
Total annual mortality (birds/annum)				0.6 to 1.9

Project	Breeding	Post-breeding	Pre-breeding	Annual
Change in baseline mortality (percentage point change)				0.003 to 0.009
Applicant's approach				
Morven South	0.1	0.0	0.0	0.1
Morven North	0.9	0.0	0.0	0.9
Total annual mortality (birds/annum)				1.0
Change in baseline mortality (percentage point change)				0.004

5.5.3.19 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the Buchan Ness to Collieston Coast SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.20 Table 5.69 (NatureScot's apportioning approach) and Table 5.70 (Applicant's approach) present the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.21 The predicted in-combination impact on kittiwake at the Buchan Ness to Collieston Coast SPA is presented in Table 5.69 (NatureScot's apportioning approach) and Table 5.70 (Applicant's approach). The total in-combination impact apportioned to the kittiwake population at the Buchan Ness to Collieston Coast SPA is 16 to 49 birds/annum when applying NatureScot's approach and 19 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.22 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.914 to 0.971; (i.e. the population after 35 years would be 3.0 to 8.6% smaller than the CPS with a 50th percentile value of 42.4 to 47.1 (Table 5.71)). In terms of the population size, this means that the median of the impacted population fell within the 42nd to 47th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.997 to 0.999 which translates to a growth rate 0.1 to 0.3% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.3.23 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.965 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 3.5% smaller than the counterfactual population size). The 50th percentile value is 46.6, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.24 The population of kittiwake at the Buchan Ness to Collieston Coast SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the Buchan Ness to

Collieston Coast SPA decreased between the Seabird 2000 and Seabirds Count national censuses but has increased slightly since Seabirds Count (BTO *et al*, 2025).

5.5.3.25 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.26 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhòr, Ossian and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South.The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.27 When the factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered.

5.5.3.28 Impacts on kittiwake that undermine the conservation objectives of the at the Buchan Ness to Collieston Coast SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.29 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Buchan Ness to Collieston Coast SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.69: Mean-peak population estimates for kittiwake at the Buchan Ness to Collieston Coast Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.27	0.53	0.90	0.02	0.02	17	1	2
Beatrice	0.00	0.53	0.90	0.02	0.02	0	13	17
Berwick Bank	0.01	0.53	0.90	0.02	0.02	121	203	330
Blyth Demo	0.18	0.53	0.90	0.02	0.02	4	8	0
Buchan	0.18	0.53	0.90	0.02	0.02	16	2	8
Caledonia North	0.06	0.53	0.90	0.02	0.02	20	6	2
Caledonia South	0.08	0.53	0.90	0.02	0.02	62	8	1
Cenos	0.16	0.53	0.90	0.02	0.02	16	1	1
Dogger Bank A				0.02	0.02		28	166
Dogger Bank B				0.02	0.02		35	205
Dogger Bank South				0.02	0.02		95	66
Dogger Bank C				0.02	0.02		17	116
Sofia				0.02	0.02		23	160
Dudgeon				0.02	0.02		0	2

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Dudgeon Extension				0.02	0.02		26	3
East Anglia One				0.02	0.02		14	7
East Anglia One North				0.02	0.02		4	5
East Anglia Three				0.02	0.02		27	17
East Anglia Two				0.02	0.02		4	8
Five Estuaries				0.02	0.02		4	14
Galloper				0.02	0.02		7	17
Green Volt	0.25	0.53	0.90	0.02	0.02	22	3	2
Hornsea Project One				0.02	0.02		388	29
Hornsea Project Two				0.02	0.02		26	51
Hornsea Project Three				0.02	0.02		44	52
Hornsea Four				0.02	0.02		21	11
Humber Gateway				0.02	0.02		0	1
Inch Cape	0.00	0.53	0.90	0.02	0.02	0	39	20
Kincardine	0.11	0.53	0.90	0.02	0.02	35	12	1

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Lincs				0.02	0.02		1	0
Moray East	0.00	0.53	0.90	0.02	0.02	0	2	3
Moray West	0.00	0.53	0.90	0.02	0.02	0	27	26
Morven North	0.15	0.53	0.90	0.02	0.02	173	7	3
Morven South	0.12	0.53	0.90	0.02	0.02	22	5	3
Muir Mhor	0.31	0.53	0.90	0.02	0.02	484	1	18
Neart na Gaoithe	0.03	0.53	0.90	0.02	0.02	32	37	3
Norfolk Boreas				0.02	0.02		47	25
Norfolk Vanguard				0.02	0.02		16	39
North Falls				0.02	0.02		8	20
Ossian	0.14	0.53	0.90	0.02	0.02	214	10	14
Outer Dowsing				0.02	0.02		18	27
Pentland	0.00	0.53	0.90	0.02	0.02	0	2	1
Race Bank				0.02	0.02		2	1
Salamander	0.50	0.53	0.90	0.02	0.02	892	2	3
SeaGreen Bravo	0.07	0.53	0.90	0.02	0.02	143	24	23
SeaGreen Alpha	0.07	0.53	0.90	0.02	0.02	248	58	27

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Sheringham Shoal Extension				0.02	0.02		3	2
Teesside				0.02	0.02		0	0
Thanet				0.02	0.02		1	0
Triton Knoll				0.02	0.02		5	7
West of Orkney	0.01	0.53	0.90	0.02	0.02	7	14	29
Total population estimates (all projects including Morven North and Morven South)						2,526	1,347	1,589
Displacement mortality	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				8	4	5
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				23	12	14
Annual mortality (birds/annum)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				16		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				49		
Change in baseline mortality (percentage point change)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.073		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				0.218		

Table 5.70: Mean-peak population estimates for kittiwake at the Buchan Ness to Collieston Coast Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.27	0.53	0.90	0.02	0.02	17	1	2
Beatrice	0.00	0.53	0.90	0.02	0.02	0	13	17
Berwick Bank	0.01	0.92	0.90	0.02	0.02	211	203	330
Blyth Demo	0.18	0.53	0.90	0.02	0.02	4	8	0
Buchan	0.18	0.82	0.90	0.02	0.02	24	2	8
Caledonia North	0.06	0.53	0.90	0.02	0.02	20	6	2
Caledonia South	0.08	0.53	0.90	0.02	0.02	62	8	1
Cenos	0.16	0.87	0.90	0.02	0.02	26	1	1
Dogger Bank A				0.02	0.02		28	166
Dogger Bank B				0.02	0.02		35	205
Dogger Bank South				0.02	0.02		95	66
Dogger Bank C				0.02	0.02		17	116
Sofia				0.02	0.02		23	160
Dudgeon				0.02	0.02		0	2
Dudgeon Extension				0.02	0.02		26	3
East Anglia One				0.02	0.02		14	7
East Anglia One North				0.02	0.02		4	5
East Anglia Three				0.02	0.02		27	17

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
East Anglia Two				0.02	0.02		4	8
Five Estuaries				0.02	0.02		4	14
Galloper				0.02	0.02		7	17
Green Volt	0.25	0.53	0.90	0.02	0.02	22	3	2
Hornsea Project One				0.02	0.02		388	29
Hornsea Project Two				0.02	0.02		26	51
Hornsea Project Three				0.02	0.02		44	52
Hornsea Four				0.02	0.02		21	11
Humber Gateway				0.02	0.02		0	1
Inch Cape	0.00	0.53	0.90	0.02	0.02	0	39	20
Kincardine	0.11	0.95	0.90	0.02	0.02	63	12	1
Lincs				0.02	0.02		1	0
Moray East	0.00	0.92	0.90	0.02	0.02	0	2	3
Moray West	0.00	0.97	0.90	0.02	0.02	0	27	26
Morven North	0.15	0.87	0.90	0.02	0.02	284	7	3
Morven South	0.12	0.78	0.90	0.02	0.02	32	5	3
Muir Mhor	0.31	0.53	0.90	0.02	0.02	484	1	18
Neart na Gaoithe	0.03	0.82	0.90	0.02	0.02	49	37	3
Norfolk Boreas				0.02	0.02		47	25
Norfolk Vanguard				0.02	0.02		16	39

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
North Falls				0.02	0.02		8	20
Ossian	0.14	0.84	0.90	0.02	0.02	339	10	14
Outer Dowsing				0.02	0.02		18	27
Pentland	0.00	0.53	0.90	0.02	0.02	0	2	1
Race Bank				0.02	0.02		2	1
Salamander	0.50	0.69	0.90	0.02	0.02	1160	2	3
SeaGreen Bravo	0.07	0.94	0.90	0.02	0.02	253	24	23
SeaGreen Alpha	0.07	0.94	0.90	0.02	0.02	439	58	27
Sheringham Shoal Extension				0.02	0.02		3	2
Teesside				0.02	0.02		0	0
Thanet				0.02	0.02		1	0
Triton Knoll				0.02	0.02		5	7
West of Orkney	0.01	0.53	0.90	0.02	0.02	7	14	29
Total population estimates (all projects including Morven North and Morven South)						3,495	1,347	1,589
Displacement mortality	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				10	4	5
Annual mortality (birds/annum)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				19		
Change in baseline mortality (percentage point change)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.085		

Table 5.71: Summary of population viability analysis results for in-combination displacement impacts on the kittiwake feature of the Buchan Ness to Collieston Coast Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	25,588	1.003	9.16	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	16.4	0.073	24,806	1.002	6.03	0.999	0.971	47.1
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	49.2	0.218	23,424	1.000	-0.30	0.997	0.914	42.4
Applicant	19.3	0.085	24,701	1.002	5.52	0.999	0.965	46.6

East Caithness Cliffs Special Protection Area

5.5.3.30 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.72 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.31 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the East Caithness Cliffs SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.72: Predicted annual mortality of kittiwake at the East Caithness Cliffs Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Pre-breeding	Annual
NatureScot's approach				
Morven South	0.0 to 0.1	0.0 to 0.1	0.0 to 0.1	0.1 to 0.3
Morven North	0.2 to 0.5	0.1 to 0.2	0.0 to 0.1	0.3 to 0.8
Total annual mortality (birds/annum)				0.4 to 1.1
Change in baseline mortality (percentage point change)				0.001 to 0.002
Applicant's approach				
Morven South	0.0	0.0	0.0	0.1
Morven North	0.3	0.1	0.0	0.4
Total annual mortality (birds/annum)				0.5
Change in baseline mortality (percentage point change)				0.001

5.5.3.32 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the East Caithness Cliffs SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.33 Table 5.73 (NatureScot's apportioning approach) and Table 5.70 (Applicant's approach) present the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.34 The predicted in-combination impact on kittiwake at the East Caithness Cliffs SPA is presented in Table 5.73 (NatureScot's apportioning approach) and Table 5.70 (Applicant's approach). The total in-combination impact apportioned to the kittiwake population at the East Caithness Cliffs SPA is 55 to 166 birds/annum when applying NatureScot's approach and 65 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.35 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.869 to 0.954; (i.e. the population

after 35 years, would be 4.6 to 13.2% smaller than the CPS with a 50th centile value of 37.7 to 45.6 (Table 5.75)). In terms of the population size, this means that the median of the impacted population fell within the 38th to 46th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.996 to 0.999 which translates to a growth rate 0.1 to 0.4% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population. However, it is also important to note that the contribution of Morven South to the n-combination total is only 0.5 to 0.6% for the upper NatureScot and Applicant approaches respectively.

5.5.3.36 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.998 and a median CPS of 0.947 (i.e. the population growth rate would be 0.2% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 5.4% smaller than the counterfactual population size). The 50th percentile value is 44.9, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.37 The population of kittiwake at the East Caithness Cliffs SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the East Caithness Cliffs SPA decreased between the Seabird 2000 and Seabirds Count national censuses and has decreased further since Seabirds Count (BTO *et al*, 2025).

5.5.3.38 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.39 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhòr, Ossian, Salamander and West of Orkney. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South.The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.40 When the factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered. The contribution of Morven South to the in-combination impact, particularly under NatureScot's recommended parameter scenario is also not considered to materially alter the current in-combination impact.

5.5.3.41 Impacts on kittiwake that undermine the conservation objectives of the at the East Caithness Cliffs SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.42 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the East Caithness Cliffs SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.73: Mean-peak population estimates for kittiwake at the East Caithness Cliffs Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.11	0.53	0.90	0.14	0.04	7	6	4
Beatrice	0.93	0.53	0.90	0.14	0.04	407	102	30
Berwick Bank	0.00	0.53	0.90	0.14	0.04	10	1595	581
Blyth Demo				0.14	0.04		61	0
Buchan	0.25	0.53	0.90	0.14	0.04	22	15	15
Caledonia North	0.54	0.53	0.90	0.14	0.04	185	46	3
Caledonia South	0.40	0.53	0.90	0.14	0.04	291	61	2
Cenos	0.13	0.53	0.90	0.14	0.04	13	7	2
Dogger Bank A				0.14	0.04		218	293
Dogger Bank B				0.14	0.04		274	361
Dogger Bank South				0.14	0.04		743	116
Dogger Bank C				0.14	0.04		132	205
Sofia				0.14	0.04		179	282
Dudgeon				0.14	0.04		3	3
Dudgeon Extension				0.14	0.04		207	6
East Anglia One				0.14	0.04		109	12
East Anglia One North				0.14	0.04		29	8

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
East Anglia Three				0.14	0.04		214	30
East Anglia Two				0.14	0.04		32	14
Five Estuaries				0.14	0.04		31	24
Galloper				0.14	0.04		56	29
Green Volt	0.17	0.53	0.90	0.14	0.04	15	21	4
Hornsea Project One				0.14	0.04		3053	50
Hornsea Project Two				0.14	0.04		207	90
Hornsea Project Three				0.14	0.04		344	92
Hornsea Four				0.14	0.04		167	20
Humber Gateway				0.14	0.04		2	1
Inch Cape	0.00	0.53	0.90	0.14	0.04	0	305	35
Kincardine	0.00	0.53	0.90	0.14	0.04	0	91	2
Lincs				0.14	0.04		5	1
Moray East	0.75	0.53	0.90	0.14	0.04	705	19	6
Moray West	0.87	0.53	0.90	0.14	0.04	2875	210	45
Morven North	0.05	0.53	0.90	0.14	0.04	57	58	6
Morven South	0.05	0.53	0.90	0.14	0.04	10	40	5
Muir Mhor	0.09	0.53	0.90	0.14	0.04	133	8	32
Neart na Gaoithe	0.00	0.53	0.90	0.14	0.04	0	287	6

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Norfolk Boreas				0.14	0.04		367	45
Norfolk Vanguard				0.14	0.04		126	69
North Falls				0.14	0.04		67	36
Ossian	0.07	0.53	0.90	0.14	0.04	101	81	25
Outer Dowsing				0.14	0.04		142	48
Pentland	0.08	0.53	0.90	0.14	0.04	21	17	2
Race Bank				0.14	0.04		12	2
Salamander	0.07	0.53	0.90	0.14	0.04	127	16	5
SeaGreen Bravo	0.00	0.53	0.90	0.14	0.04	0	191	40
SeaGreen Alpha	0.00	0.53	0.90	0.14	0.04	0	454	47
Sheringham Shoal Extension				0.14	0.04		21	3
Teesside				0.14	0.04		1	1
Thanet				0.14	0.04		5	0
Triton Knoll				0.14	0.04		41	12
West of Orkney	0.21	0.53	0.90	0.14	0.04	112	114	51
Total population estimates (all projects including Morven North and Morven South)						5,091	10,592	2,798
Displacement mortality	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				15	32	8
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				46	96	25

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Annual mortality (birds/annum)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				55		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				166		
Change in baseline mortality (percentage point change)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.113		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				0.340		

Table 5.74: Mean-peak population estimates for kittiwake at the East Caithness Cliffs Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.11	0.53	0.90	0.14	0.04	7	6	4
Beatrice	0.93	0.53	0.90	0.14	0.04	407	102	30
Berwick Bank	0.00	0.92	0.90	0.14	0.04	18	1595	581
Blyth Demo				0.14	0.04		61	0
Buchan	0.25	0.82	0.90	0.14	0.04	34	15	15
Caledonia North	0.54	0.53	0.90	0.14	0.04	185	46	3
Caledonia South	0.40	0.53	0.90	0.14	0.04	291	61	2

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Cenos	0.13	0.87	0.90	0.14	0.04	21	7	2
Dogger Bank A				0.14	0.04		218	293
Dogger Bank B				0.14	0.04		274	361
Dogger Bank South				0.14	0.04		743	116
Dogger Bank C				0.14	0.04		132	205
Sofia				0.14	0.04		179	282
Dudgeon				0.14	0.04		3	3
Dudgeon Extension				0.14	0.04		207	6
East Anglia One				0.14	0.04		109	12
East Anglia One North				0.14	0.04		29	8
East Anglia Three				0.14	0.04		214	30
East Anglia Two				0.14	0.04		32	14
Five Estuaries				0.14	0.04		31	24
Galloper				0.14	0.04		56	29
Green Volt	0.17	0.53	0.90	0.14	0.04	15	21	4
Hornsea Project One				0.14	0.04		3053	50
Hornsea Project Two				0.14	0.04		207	90
Hornsea Project Three				0.14	0.04		344	92

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Hornsea Four				0.14	0.04		167	20
Humber Gateway				0.14	0.04		2	1
Inch Cape	0.00	0.53	0.90	0.14	0.04	0	305	35
Kincardine	0.00	0.95	0.90	0.14	0.04	0	91	2
Lincs				0.14	0.04		5	1
Moray East	0.75	0.92	0.90	0.14	0.04	1212	19	6
Moray West	0.87	0.97	0.90	0.14	0.04	5264	210	45
Morven North	0.05	0.87	0.90	0.14	0.04	94	58	6
Morven South	0.05	0.78	0.90	0.14	0.04	14	40	5
Muir Mhor	0.09	0.53	0.90	0.14	0.04	133	8	32
Neart na Gaoithe	0.00	0.82	0.90	0.14	0.04	0	287	6
Norfolk Boreas				0.14	0.04		367	45
Norfolk Vanguard				0.14	0.04		126	69
North Falls				0.14	0.04		67	36
Ossian	0.07	0.84	0.90	0.14	0.04	160	81	25
Outer Dowsing				0.14	0.04		142	48
Pentland	0.08	0.53	0.90	0.14	0.04	21	17	2
Race Bank				0.14	0.04		12	2
Salamander	0.07	0.69	0.90	0.14	0.04	165	16	5
SeaGreen Bravo	0.00	0.94	0.90	0.14	0.04	0	191	40
SeaGreen Alpha	0.00	0.94	0.90	0.14	0.04	0	454	47

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Sheringham Shoal Extension				0.14	0.04		21	3
Teesside				0.14	0.04		1	1
Thanet				0.14	0.04		5	0
Triton Knoll				0.14	0.04		41	12
West of Orkney	0.21	0.53	0.90	0.14	0.04	112	114	51
Total population estimates (all projects including Morven North and Morven South)						8,153	10,592	2,798
Displacement mortality	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				24	32	8
Annual mortality (birds/annum)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				65		
Change in baseline mortality (percentage point change)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.132		

Table 5.75: Summary of population viability analysis results for in-combination displacement impacts on the kittiwake feature of the East Caithness Cliffs Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	55,109	1.002	8.26	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	55.4	0.113	52,429	1.001	3.19	0.999	0.954	45.6
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	166.3	0.340	47,778	0.998	-6.01	0.996	0.869	37.7
Applicant	64.6	0.132	52,028	1.001	2.55	0.998	0.947	44.9

Flamborough and Filey Coast Special Protection Area

5.5.3.43 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.76 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.44 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Flamborough and Filey Coast SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.76: Predicted annual mortality of kittiwake at the Flamborough and Filey Coast Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Pre-breeding	Annual
NatureScot's approach				
Morven South	0.1 to 0.2	0.0 to 0.1	0.0 to 0.1	0.1 to 0.4
Morven North	0.3 to 0.9	0.1 to 0.2	0.0 to 0.1	0.4 to 1.2
Total annual mortality (birds/annum)				0.5 to 1.5
Change in baseline mortality (percentage point change)				<0.001 to 0.001
Applicant's approach				
Morven South	0.1	0.0	0.0	0.2
Morven North	0.5	0.1	0.0	0.6
Total annual mortality (birds/annum)				0.8
Change in baseline mortality (percentage point change)				0.001

5.5.3.45 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the Flamborough and Filey Coast SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.46 Table 5.77 (NatureScot's apportioning approach) and Table 5.78 (Applicant's approach) present the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.47 The predicted in-combination impact on kittiwake at the Flamborough and Filey Coast SPA is presented in Table 5.77 (NatureScot's apportioning approach) and Table 5.78 (Applicant's approach). The total in-combination impact apportioned to the kittiwake population at the Flamborough and Filey Coast SPA is 81 to 244 birds/annum when applying NatureScot's approach and 96 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.48 The population of kittiwake at the Flamborough and Filey Coast SPA is currently above the population at designation (Table 5.8). The population of kittiwake at the Flamborough and Filey Coast SPA slightly increased (by 7%) between the Seabird 2000 and Seabirds Count national censuses but has decreased since Seabirds Count (BTO *et al*, 2025).

5.5.3.49 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.904 to 0.967; (i.e. the population after 35 years, would be 3.3 to 9.6% smaller than the CPS with a 50th centile value of 41.4 to 47.1 (Table 5.79)). In terms of the population size, this means that the median of the impacted population fell within the 41st to 47th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.997 to 0.999 which translates to a growth rate 0.1 to 0.3% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population. However, it is also important to note that the contribution of Morven South to the in-combination total is only 0.4 to 0.5% for the upper NatureScot and Applicant approaches respectively and is considered to represent an immaterial contribution to the existing in-combination impact.

5.5.3.50 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.961 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 3.9% smaller than the counterfactual population size). The 50th percentile value is 46.4, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.51 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.52 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Dogger Bank South, East Anglia One North, East Anglia Two, Five Estuaries, Hornsea Three, Hornsea Four, Norfolk Boreas, Norfolk Vanguard, North Falls, Ossian, Outer Dowsing, Rampion 2, Sheringham Shoal Extension and Dudgeon Extension. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South.The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.53 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the kittiwake population at the SPA from continuing to grow, noting that the population of kittiwake at the SPA has shown an increasing trend between the two most recent national censuses. The contribution of Morven South to the in-combination impact, particularly under NatureScot's recommended parameter scenario is not considered to represent a material increase in the existing in-combination impact. In addition consideration should be given to other factors discussed in paragraph 5.5.3.6 and the compensation required at other projects. It is also important to note that the Flamborough and Filey Coast SPA falls under the remit of Natural England. Natural England do not require consideration of displacement impacts for kittiwake.

5.5.3.54 When the factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account it is considered that impacts on kittiwake that undermine the conservation objectives of the at the Flamborough and Filey Coast SPA will therefore not occur as a result of in-combination collision risk impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.55 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Flamborough and Filey Coast SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.77: Mean-peak population estimates for kittiwake at the Flamborough and Filey Coast Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen				0.05	0.07		2	6
Beatrice				0.05	0.07		39	51
Berwick Bank	0.00	0.53	0.90	0.05	0.07	10	609	990
Blyth Demo	0.54	0.53	0.90	0.05	0.07	11	23	0
Buchan				0.05	0.07		6	25
Caledonia North				0.05	0.07		17	5
Caledonia South				0.05	0.07		23	4
Cenos				0.05	0.07		3	3
Dogger Bank A	0.12	0.53	0.90	0.05	0.07	200	83	499
Dogger Bank B	0.12	0.53	0.90	0.05	0.07	254	104	614
Dogger Bank South	0.97	0.53	0.90	0.05	0.07	4819	284	198
Dogger Bank C	0.14	0.53	0.90	0.05	0.07	116	50	349
Sofia	0.14	0.53	0.90	0.05	0.07	180	68	481
Dudgeon	1.00	0.53	0.90	0.05	0.07	17	1	6
Dudgeon Extension				0.05	0.07	0	79	10
East Anglia One	0.17	1.00	1.00	0.05	0.07	31	41	20
East Anglia One North	0.17	1.00	1.00	0.05	0.07	73	11	14
East Anglia Three	0.17	1.00	1.00	0.05	0.07	20	82	51

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
East Anglia Two	0.17	1.00	1.00	0.05	0.07	80	12	25
Five Estuaries	0.00	0.53	0.90	0.05	0.07	0	12	41
Galloper	0.00	0.53	0.90	0.05	0.07	0	21	50
Green Volt	0.00			0.05	0.07		8	6
Hornsea Project One	0.83	0.53	0.90	0.05	0.07	3478	1165	86
Hornsea Project Two	0.83	0.53	0.90	0.05	0.07	1154	79	153
Hornsea Project Three	0.93	0.53	0.90	0.05	0.07	2858	131	157
Hornsea Four	1.00	0.53	0.90	0.05	0.07	2626	64	33
Humber Gateway	0.99	0.53	0.90	0.05	0.07	59	1	2
Inch Cape	0.00	0.53	0.90	0.05	0.07	0	116	60
Kincardine	0.00	0.53	0.90	0.05	0.07	0	35	4
Lincs	0.99	0.53	0.90	0.05	0.07	8	2	1
Moray East				0.05	0.07		7	9
Moray West				0.05	0.07		80	77
Morven North	0.07	0.53	0.90	0.05	0.07	87	22	10
Morven South	0.13	0.53	0.90	0.05	0.07	25	15	8
Muir Mhor				0.05	0.07		3	54
Neart na Gaoithe	0.00	0.53	0.90	0.05	0.07	0	110	10
Norfolk Boreas	0.86	0.53	0.90	0.05	0.07	237	140	76
Norfolk Vanguard	0.86	0.53	0.90	0.05	0.07	118	48	118
North Falls	0.00	0.53	0.90	0.05	0.07	0	25	61

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Ossian	0.12	0.53	0.90	0.05	0.07	187	31	42
Outer Dowsing	0.55	0.53	0.90	0.05	0.07	1319	54	82
Pentland				0.05	0.07		6	3
Race Bank	0.99	0.53	0.90	0.05	0.07	59	5	3
Salamander				0.05	0.07		6	8
SeaGreen Bravo	0.00	0.53	0.90	0.05	0.07	0	73	68
SeaGreen Alpha	0.00	0.53	0.90	0.05	0.07	0	173	80
Sheringham Shoal Extension	1.00	0.53	0.90	0.05	0.07	91	8	5
Teesside	0.93	0.53	0.90	0.05	0.07	88	0	1
Thanet				0.05	0.07		2	1
Triton Knoll	0.99	0.53	0.90	0.05	0.07	135	16	21
West of Orkney				0.05	0.07		43	87
Total population estimates (all projects including Morven North and Morven South)						18,340	4,041	4,767
Displacement mortality	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				55	12	14
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				165	36	43
Annual mortality (birds/annum)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				81		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				244		

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Change in baseline mortality (percentage point change)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.079		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				0.237		

Table 5.78: Mean-peak population estimates for kittiwake at the Flamborough and Filey Coast Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen				0.05	0.07		2	6
Beatrice				0.05	0.07		39	51
Berwick Bank	0.00	0.92	0.90	0.05	0.07	18	609	990
Blyth Demo	0.54	0.53	0.90	0.05	0.07	11	23	0
Buchan				0.05	0.07		6	25
Caledonia North				0.05	0.07		17	5
Caledonia South				0.05	0.07		23	4
Cenos				0.05	0.07		3	3
Dogger Bank A	0.12	0.53	0.90	0.05	0.07	200	83	499
Dogger Bank B	0.12	0.53	0.90	0.05	0.07	254	104	614
Dogger Bank South	0.97	0.53	0.90	0.05	0.07	4819	284	198

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Dogger Bank C	0.14	0.53	0.90	0.05	0.07	116	50	349
Sofia	0.14	0.53	0.90	0.05	0.07	180	68	481
Dudgeon	1.00	0.53	0.90	0.05	0.07	17	1	6
Dudgeon Extension				0.05	0.07	0	79	10
East Anglia One	0.17	1.00	1.00	0.05	0.07	31	41	20
East Anglia One North	0.17	1.00	1.00	0.05	0.07	73	11	14
East Anglia Three	0.17	1.00	1.00	0.05	0.07	20	82	51
East Anglia Two	0.17	1.00	1.00	0.05	0.07	80	12	25
Five Estuaries	0.00	0.53	0.90	0.05	0.07	0	12	41
Galloper	0.00	0.53	0.90	0.05	0.07	0	21	50
Green Volt	0.00			0.05	0.07		8	6
Hornsea Project One	0.83	0.74	0.90	0.05	0.07	4866	1165	86
Hornsea Project Two	0.83	0.86	0.90	0.05	0.07	1866	79	153
Hornsea Project Three	0.93	0.88	0.90	0.05	0.07	4721	131	157
Hornsea Four	1.00	0.53	0.90	0.05	0.07	2626	64	33
Humber Gateway	0.99	0.53	0.90	0.05	0.07	59	1	2
Inch Cape	0.00	0.53	0.90	0.05	0.07	0	116	60
Kincardine	0.00	0.95	0.90	0.05	0.07	0	35	4

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Lincs	0.99	0.53	0.90	0.05	0.07	8	2	1
Moray East				0.05	0.07		7	9
Moray West				0.05	0.07		80	77
Morven North	0.07	0.87	0.90	0.05	0.07	143	22	10
Morven South	0.13	0.78	0.90	0.05	0.07	37	15	8
Muir Mhor				0.05	0.07		3	54
Neart na Gaoithe	0.00	0.82	0.90	0.05	0.07	0	110	10
Norfolk Boreas	0.86	0.53	0.90	0.05	0.07	237	140	76
Norfolk Vanguard	0.86	0.53	0.90	0.05	0.07	118	48	118
North Falls	0.00	0.59	0.90	0.05	0.07	0	25	61
Ossian	0.12	0.84	0.90	0.05	0.07	296	31	42
Outer Dowsing	0.55	0.77	0.90	0.05	0.07	1903	54	82
Pentland				0.05	0.07		6	3
Race Bank	0.99	0.53	0.90	0.05	0.07	59	5	3
Salamander				0.05	0.07		6	8
SeaGreen Bravo	0.00	0.94	0.90	0.05	0.07	0	73	68
SeaGreen Alpha	0.00	0.94	0.90	0.05	0.07	0	173	80
Sheringham Shoal Extension	1.00	0.53	0.90	0.05	0.07	91	8	5
Teesside	0.93	0.53	0.90	0.05	0.07	88	0	1
Thanet				0.05	0.07		2	1

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Triton Knoll	0.99	0.53	0.90	0.05	0.07	135	16	21
West of Orkney				0.05	0.07		43	87
Total population estimates (all projects including Morven North and Morven South)						23,072	4,041	4,767
Displacement mortality	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				69	12	14
Annual mortality (birds/annum)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				96		
Change in baseline mortality (percentage point change)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.093		

Table 5.79: Summary of population viability analysis results for in-combination displacement impacts on the kittiwake feature of the Flamborough and Filey Coast Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	117,660	1.002	8.97	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	81.5	0.079	113,843	1.002	5.36	0.999	0.967	47.1
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	244.4	0.237	106,297	1.000	-1.62	0.997	0.904	41.4
Applicant	95.7	0.093	113,219	1.001	4.78	0.999	0.961	46.6

Fowlsheugh Special Protection Area

5.5.3.56 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.80 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.57 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Fowlsheugh SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.80: Predicted annual mortality of kittiwake at the Fowlsheugh Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Pre-breeding	Annual
NatureScot's approach				
Morven South	0.1 to 0.4	0.0 to 0.0	0.0 to 0.0	0.1 to 0.4
Morven North	1.1 to 3.2	0.0 to 0.0	0.0 to 0.0	1.1 to 3.3
Total annual mortality (birds/annum)				1.2 to 3.7
Change in baseline mortality (percentage point change)				0.004 to 0.013
Applicant's approach				
Morven South	0.2	0.0	0.0	0.2
Morven North	1.8	0.0	0.0	1.8
Total annual mortality (birds/annum)				2.0
Change in baseline mortality (percentage point change)				0.004

5.5.3.58 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of kittiwake from the Fowlsheugh SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.59 Table 5.81 (NatureScot's apportioning approach) and Table 5.82 (Applicant's approach) present the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.60 The predicted in-combination impact on kittiwake at the Fowlsheugh SPA is presented in Table 5.81 (NatureScot's apportioning approach) and Table 5.82 (Applicant's approach). The total in-combination impact apportioned to the kittiwake population at the Fowlsheugh SPA is 24 to 73 birds/annum when applying NatureScot's approach and 35 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.61 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.897 to 0.964; (i.e. the population

after 35 years, would be 3.6 to 10.3% smaller than the CPS with a 50th centile value of 40.6 to 46.7 (Table 5.83)). In terms of the population size, this means that the median of the impacted population fell within the 41st to 47th centile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.997 to 0.999 which translates to a growth rate 0.1 to 0.3% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.3.62 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.949 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 5.1% smaller than the counterfactual population size). The 50th percentile value is 45.7, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.63 The population of kittiwake at the Fowlsheugh SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the Fowlsheugh SPA decreased between the Seabird 2000 and Seabirds Count national censuses but has increased since Seabirds Count (BTO *et al*, 2025).

5.5.3.64 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.65 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Cenos, Green Volt, Muir Mhòr, Ossian and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.66 When the factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered.

5.5.3.67 Impacts on kittiwake that undermine the conservation objectives of the at the Fowlsheugh SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.68 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Fowlsheugh SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.81: Mean-peak population estimates for kittiwake at the Fowlsheugh Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.24	0.53	0.90	0.01	0.02	15	1	2
Beatrice	0.00	0.53	0.90	0.01	0.02	0	10	13
Berwick Bank	0.17	0.53	0.90	0.01	0.02	1741	151	246
Blyth Demo	0.05	0.53	0.90	0.01	0.02	1	6	0
Buchan	0.11	0.53	0.90	0.01	0.02	10	1	6
Caledonia North	0.05	0.53	0.90	0.01	0.02	16	4	1
Caledonia South	0.06	0.53	0.90	0.01	0.02	42	6	1
Cenos	0.23	0.53	0.90	0.01	0.02	23	1	1
Dogger Bank A				0.01	0.02		21	124
Dogger Bank B				0.01	0.02		26	152
Dogger Bank South				0.01	0.02		70	49
Dogger Bank C				0.01	0.02		13	87
Sofia				0.01	0.02		17	119
Dudgeon				0.01	0.02		0	1
Dudgeon Extension				0.01	0.02		20	2
East Anglia One				0.01	0.02		10	5
East Anglia One North				0.01	0.02		3	4

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
East Anglia Three				0.01	0.02		20	13
East Anglia Two				0.01	0.02		3	6
Five Estuaries				0.01	0.02		3	10
Galloper				0.01	0.02		5	12
Green Volt	0.15	0.53	0.90	0.01	0.02	13	2	1
Hornsea Project One				0.01	0.02		289	21
Hornsea Project Two				0.01	0.02		20	38
Hornsea Project Three				0.01	0.02		33	39
Hornsea Four				0.01	0.02		16	8
Humber Gateway				0.01	0.02		0	0
Inch Cape	0.29	0.53	0.90	0.01	0.02	531	29	15
Kincardine	0.29	0.53	0.90	0.01	0.02	93	9	1
Lincs				0.01	0.02		0	0
Moray East	0.00	0.53	0.90	0.01	0.02	0	2	2
Moray West	0.00	0.53	0.90	0.01	0.02	0	20	19
Morven North	0.30	0.53	0.90	0.01	0.02	357	6	2
Morven South	0.23	0.53	0.90	0.01	0.02	44	4	2
Muir Mhor	0.23	0.53	0.90	0.01	0.02	352	1	13
Neart na Gaoithe	0.08	0.53	0.90	0.01	0.02	81	27	2

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Norfolk Boreas				0.01	0.02		35	19
Norfolk Vanguard				0.01	0.02		12	29
North Falls				0.01	0.02		6	15
Ossian	0.21	0.53	0.90	0.01	0.02	318	8	10
Outer Dowsing				0.01	0.02		13	20
Pentland	0.00	0.53	0.90	0.01	0.02	0	2	1
Race Bank				0.01	0.02		1	1
Salamander	0.10	0.53	0.90	0.01	0.02	183	1	2
SeaGreen Bravo	0.39	0.53	0.90	0.01	0.02	774	18	17
SeaGreen Alpha	0.39	0.53	0.90	0.01	0.02	1342	43	20
Sheringham Shoal Extension				0.01	0.02		2	1
Teesside	0.02	0.53	0.90	0.01	0.02	1	0	0
Thanet				0.01	0.02		0	0
Triton Knoll				0.01	0.02		4	5
West of Orkney	0.01	0.53	0.90	0.01	0.02	6	11	22
Total population estimates (all projects including Morven North and Morven South)						5,942	1,003	1,183
Displacement mortality	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				18	3	4
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				53	9	11

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Annual mortality (birds/annum)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				24		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				73		
Change in baseline mortality (percentage point change)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.087		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				0.261		

Table 5.82: Mean-peak population estimates for kittiwake at the Fowlsheugh Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.24	0.53	0.90	0.01	0.02	15	1	2
Beatrice	0.00	0.53	0.90	0.01	0.02	0	10	13
Berwick Bank	0.17	0.92	0.90	0.01	0.02	3019	151	246
Blyth Demo	0.05	0.53	0.90	0.01	0.02	1	6	0
Buchan	0.11	0.82	0.90	0.01	0.02	15	1	6
Caledonia North	0.05	0.53	0.90	0.01	0.02	16	4	1
Caledonia South	0.06	0.53	0.90	0.01	0.02	42	6	1

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Cenos	0.23	0.87	0.90	0.01	0.02	37	1	1
Dogger Bank A				0.01	0.02		21	124
Dogger Bank B				0.01	0.02		26	152
Dogger Bank South				0.01	0.02		70	49
Dogger Bank C				0.01	0.02		13	87
Sofia				0.01	0.02		17	119
Dudgeon				0.01	0.02		0	1
Dudgeon Extension				0.01	0.02		20	2
East Anglia One				0.01	0.02		10	5
East Anglia One North				0.01	0.02		3	4
East Anglia Three				0.01	0.02		20	13
East Anglia Two				0.01	0.02		3	6
Five Estuaries				0.01	0.02		3	10
Galloper				0.01	0.02		5	12
Green Volt	0.15	0.53	0.90	0.01	0.02	13	2	1
Hornsea Project One		0.74		0.01	0.02		289	21
Hornsea Project Two		0.86		0.01	0.02		20	38
Hornsea Project Three		0.88		0.01	0.02		33	39

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Hornsea Four				0.01	0.02		16	8
Humber Gateway				0.01	0.02		0	0
Inch Cape	0.29	0.53	0.90	0.01	0.02	531	29	15
Kincardine	0.29	0.95	0.90	0.01	0.02	166	9	1
Lincs				0.01	0.02		0	0
Moray East	0.00	0.92	0.90	0.01	0.02	0	2	2
Moray West	0.00	0.97	0.90	0.01	0.02	0	20	19
Morven North	0.30	0.87	0.90	0.01	0.02	585	6	2
Morven South	0.23	0.78	0.90	0.01	0.02	65	4	2
Muir Mhor	0.23	0.53	0.90	0.01	0.02	352	1	13
Neart na Gaoithe	0.08	0.82	0.90	0.01	0.02	125	27	2
Norfolk Boreas				0.01	0.02		35	19
Norfolk Vanguard				0.01	0.02		12	29
North Falls		0.59		0.01	0.02		6	15
Ossian	0.21	0.84	0.90	0.01	0.02	505	8	10
Outer Dowsing		0.77		0.01	0.02		13	20
Pentland	0.00	0.53	0.90	0.01	0.02	0	2	1
Race Bank				0.01	0.02		1	1
Salamander	0.10	0.69	0.90	0.01	0.02	238	1	2
SeaGreen Bravo	0.39	0.94	0.90	0.01	0.02	1369	18	17
SeaGreen Alpha	0.39	0.94	0.90	0.01	0.02	2375	43	20

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Sheringham Shoal Extension				0.01	0.02		2	1
Teesside	0.02	0.53	0.90	0.01	0.02	1	0	0
Thanet				0.01	0.02		0	0
Triton Knoll				0.01	0.02		4	5
West of Orkney	0.01	0.53	0.90	0.01	0.02	6	11	22
Total population estimates (all projects including Morven North and Morven South)						9,477	1,003	1,183
Displacement mortality	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				28	3	4
Annual mortality (birds/annum)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				35		
Change in baseline mortality (percentage point change)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.125		

Table 5.83: Summary of population viability analysis results for in-combination displacement impacts on the kittiwake feature of the Fowlsheugh Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	31,491	1.002	8.23	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	24.4	0.087	30,375	1.001	4.49	0.999	0.964	46.7
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	73.2	0.261	28,390	0.999	-2.94	0.997	0.897	40.6
Applicant	35.0	0.125	29,982	1.001	2.92	0.999	0.949	45.7

Guillemot

5.5.3.69 Mean-peak population estimates for guillemot apportioned to each of the SPAs identified in paragraph 5.5.3.1 are presented on a seasonal basis in the following SPA-specific sections. Impacts predicted for each SPA using the displacement and mortality rates advocated by NatureScot and the Applicant are also provided. The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance.

5.5.3.70 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Buchan Ness to Collieston Coast Special Protection Area

5.5.3.71 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.84 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches is above the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been conducted.

Table 5.84: Predicted annual mortality of guillemot at the Buchan Ness to Collieston Coast Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Annual
NatureScot's approach				
Morven South	n/a	4.5 to 13.4	1.2 to 3.7	5.7 to 17.2
Morven North	6.3 to 10.5	11.5 to 34.5	3.2 to 9.6	21.0 to 54.6
Total annual mortality (birds/annum)				26.7 to 71.8
Change in baseline mortality (percentage point change)				0.068 to 0.182
Applicant's approach				
Morven South	n/a	3.7	1.0	4.8
Morven North	1.7	9.6	2.7	14.0
Total annual mortality (birds/annum)				18.8
Change in baseline mortality (percentage point change)				0.048

5.5.3.72 PVA modelling for the guillemot population at the Buchan Ness to Collieston Coast SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.931 to 0.974 (i.e. the population after 35 years, would be 2.6% to 6.9% smaller than the CPS with a 50th percentile value of 34.1 to 43.7 (Table 5.86)). In terms of the population size, this means that the median of the impacted population fell within the 34th or 44th centile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.998 to 0.998 which translates to a growth rate 0.1 to 0.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently

seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.73 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 1.000 and a median CPS of 0.981 (i.e. the population growth rate would be 0.0% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 1.9% smaller than the counterfactual population size). The 50th percentile value is 45.7, well within the margin of error of the non-impacted scenario. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.74 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the guillemot population of the Buchan Ness to Collieston Coast SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

5.5.3.75 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of guillemot from the Buchan Ness to Collieston Coast SPA, there are a number of projects that require consideration in the breeding season. In non-breeding seasons, all projects considered in the breeding season are included alongside any additional projects located between the Troup, Pennan and Lion's Heads SPA to the north and St Abb's Head to Fast Castle SPA in the south.

5.5.3.76 Table 5.85 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.77 The predicted in-combination impact on guillemot at the Buchan Ness to Collieston Coast SPA is presented in Table 5.85 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the guillemot population at the Buchan Ness to Collieston Coast SPA is 284 to 601 birds/annum when applying NatureScot's approach and 132 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.78 PVA modelling for the guillemot population at the Buchan Ness to Collieston Coast SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.549 to 0.754 (i.e. the population after 35 years, would be 24.6% to 45.1% smaller than the CPS with a 50th percentile value of 0 to 5.9 (Table 5.86)). In terms of the population size, this means that the median of the impacted population fell within the 1st or 6th centile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.983 to 0.992 which translates to a growth rate 0.8 to 1.7% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.79 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 0.996 and a median CPS of 0.877 (i.e. the population growth rate would be 0.4% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 12.3% smaller than the counterfactual population size). The 50th percentile value is 22.9, within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.80 The current population at the SPA is above the population at designation (Table 5.8). The population of guillemot at the Buchan Ness to Collieston Coast SPA remained stable between the Seabird 2000 and Seabirds Count national censuses but has decreased slightly since Seabirds Count. Under all scenarios the counterfactual scenario predicts a positive population growth rate and under the impacted scenario the population growth rate for guillemot remains positive meaning the population will continue to grow despite the predicted in-combination impact.

5.5.3.81 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.82 The populations of guillemot at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for guillemot for July to March. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination. It is therefore considered that these populations likely represent an over-estimate of the number of guillemot present at each project between July and March.

5.5.3.83 For the Muir Mhòr project, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result this project has been required to submit a derogation case which includes compensation measures. The proposed compensatory measures will compensate for the residual effects from this project that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with this project should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.84 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the guillemot population at the SPA. However, the population at the SPA is well above the cited population (Table 5.8) and the PVA modelling predicts that the population growth rate will remain positive.

5.5.3.85 When the factors discussed in paragraphs 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of guillemot at the SPA would be maintained.

5.5.3.86 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the guillemot population of the Buchan Ness to Collieston Coast SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.85: Mean-peak population estimates for guillemot at the Buchan Ness to Collieston Coast Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aberdeen	0.79	0.58	0.93		0.14	236		29
Berwick Bank	0.01	0.58	0.93		0.03	357		1325
Green Volt	0.33	0.58	0.93		0.01	772		206
Inch Cape	0.03	0.58	0.93		0.02	140		72
Kincardine	0.10	0.58	0.93		0.06	34		461
Moray West	0.01	0.58	0.93		0.01	131		382
Morven North	0.16	0.58	0.93	0.08	0.08	349	1917	536
Morven South	0.00	0.58	0.93	0.08	0.08	0	746	207
Muir Mhor	0.61	0.58	0.93		0.35	4261		4142
Neart na Gaoithe	0.01	0.58	0.93		0.01	36		60
Ossian	0.35	0.58	0.93		0.06	2062		2956
Salamander	0.76	0.58	0.93		0.22	1463		2587
SeaGreen Bravo	0.05	0.58	0.93		0.03	297		118
SeaGreen Alpha	0.05	0.58	0.93		0.03	363		135
Total population estimates (all projects including Morven North and Morven South)						10,500	2,663	13,216
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				189	16	79
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				315	48	238

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				53	13	66
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				284		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				601		
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				132		
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.721		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				1.523		
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				0.334		

Table 5.86: Summary of population viability analysis results for in-combination displacement impacts on the guillemot feature of the Buchan Ness to Collieston Coast Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	146,425	1.025	139.1	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	26.7	0.068	142,542	1.025	133.2	0.999	0.974	43.7
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	71.8	0.182	136,288	1.023	123.0	0.998	0.931	34.1
Applicant	18.8	0.048	143,706	1.025	123.0	1.000	0.981	45.7
In-combination (Scenario 4)								
Baseline	-	-	146,425	1.025	139.1	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	284.3	0.721	110,375	1.017	80.4	0.992	0.754	5.9
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	600.8	1.523	80,329	1.008	31.4	0.983	0.549	0.0
Applicant	131.9	0.334	128,444	1.021	110.1	0.996	0.877	22.9

Fowlsheugh Special Protection Area

5.5.3.87 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.87 for both NatureScot's and the Applicant's Approach. The predicted impact under both approaches is above the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been conducted.

Table 5.87: Predicted annual mortality of guillemot at the Fowlsheugh Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Annual
NatureScot's approach				
Morven South	7.4 to 12.3	10.6 to 31.9	3.0 to 8.9	20.9 to 53.0
Morven North	30.4 to 50.7	27.3 to 81.9	7.6 to 22.9	65.3 to 155.4
Total annual mortality (birds/annum)				86.3 to 208.4
Change in baseline mortality (percentage point change)				0.092 to 0.223
Applicant's approach				
Morven South	n/a	8.8	2.5	11.3
Morven North	8.4	22.7	6.4	37.5
Total annual mortality (birds/annum)				48.9
Change in baseline mortality (percentage point change)				0.052

5.5.3.88 PVA modelling for the guillemot population at the Fowlsheugh SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.917 to 0.965 (i.e. the population after 35 years, would be 5.5 to 8.3% smaller than the CPS with a 50th percentile value of 31.7 to 42.6 (Table 5.90)). In terms of the population size, this means that the median of the impacted population fell within the 32nd or 43rd percentile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.998 to 0.999 which translates to a growth rate 0.1 to 0.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.89 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.980 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 2.0% smaller than the counterfactual population size). The 50th percentile value is 46.0, well within the margin of error of the non-impacted scenario. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.90 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the guillemot population of the Fowlsheugh SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

5.5.3.91 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of guillemot from the Fowlsheugh SPA, there are a number of projects that require consideration in the breeding season. In non-breeding seasons, all projects considered in the breeding season are included alongside any additional projects located between the Troup, Pennan and Lion's Heads SPA to the north and St Abb's Head to Fast Castle SPA in the south.

5.5.3.92 Table 5.88 presents the seasonal population estimates for those projects considered in-combination when applying NatureScot's advocated approach for Morven South and Morven North. Table 5.89 provides the same information albeit for the Applicant's approach. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.93 The predicted in-combination impact on guillemot at the Fowlsheugh SPA is presented in Table 5.88 when applying NatureScot's advocated displacement and mortality rates and Table 5.89 when applying the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the guillemot population at the Fowlsheugh SPA is 724 to 1,475 birds/annum when applying NatureScot's approach and 311 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.94 PVA modelling for the guillemot population at the Fowlsheugh SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.538 to 0.738 (i.e. the population after 35 years, would be 26.2% to 46.3% smaller than the CPS with a 50th percentile value of 0 to 4.7 (Table 5.90)). In terms of the population size, this means that the median of the impacted population fell within the 1st or 5th percentile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.982 to 0.991 which translates to a growth rate 0.9 to 1.8% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.95 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 0.996 and a median CPS of 0.878 (i.e. the population growth rate would be 0.4% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 12.2% smaller than the counterfactual population size). The 50th percentile value is 24.2, within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.96 The current population at the SPA is above the population at designation (Table 5.8). The population of guillemot at the Fowlsheugh SPA remained stable between the Seabird 2000 and Seabirds Count national censuses but has increased subsequently (BTO *et al.,* 2025). Under all scenarios the counterfactual scenario predicts a positive population growth rate and under the impacted scenario the population growth rate for guillemot remains positive meaning the population will continue to grow despite the predicted in-combination impact.

5.5.3.97 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.98 The populations of guillemot at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for guillemot for July to March. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population

estimates used for projects considered in-combination. It is therefore considered that these populations likely represent an over-estimate of the number of guillemot present at each project between July and March.

5.5.3.99 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank and Green Volt. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.100 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the guillemot population at the SPA. However, the population at the SPA is above the cited population (Table 5.8) and as the PVA modelling predicts that the population growth rate will remain positive, the conservation objectives for the SPA will not be undermined.

5.5.3.101 When considered alongside other factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of guillemot at the SPA would be maintained.

5.5.3.102 Impacts on guillemot that undermine the conservation objectives of the at the Fowlsheugh SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.103 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the guillemot population of the Fowlsheugh SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.88: Mean-peak population estimates for guillemot at the Fowlsheugh Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aberdeen	0.16	0.58	0.93		0.32	49		70
Berwick Bank	0.36	0.58	0.93		0.22	14236		9850
Inch Cape	0.38	0.58	0.93		0.22	1650		848
Kincardine	0.82	0.58	0.93		0.47	277		3779
Morven North	0.77	0.58	0.93	0.20	0.20	1690	4548	1271
Morven South	0.92	0.58	0.93	0.20	0.20	409	1770	492
Muir Mhor	0.00	0.58	0.93		0.00	0		0
Neart na Gaoithe	0.09	0.58	0.93		0.05	231		387
Ossian	0.26	0.58	0.93		0.15	1544		7012
Salamander	0.00	0.58	0.93		0.00	0		0
SeaGreen Bravo	0.68	0.58	0.93		0.39	4042		1608
SeaGreen Alpha	0.68	0.58	0.93		0.39	4947		1833
Total population estimates (all projects including Morven North and Morven South)						29,074	6,318	27,150
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				523	38	163
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				872	114	489

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				724		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				1,475		
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.774		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				1.576		

Table 5.89: Mean-peak population estimates for guillemot at the Fowlsheugh Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aberdeen	0.16	0.58	0.93		0.32	49		70
Berwick Bank	0.36	0.58	0.93		0.22	14236		9850
Inch Cape	0.38	0.58	0.93		0.22	1650		848
Kincardine	0.82	0.58	0.93		0.47	277		3779
Morven North	0.77	0.58	0.93	0.20	0.20	1690	4548	1271
Morven South	0.00	0.58	0.93	0.20	0.20	0	1770	492

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Muir Mhor	0.00	0.58	0.93		0.00	0		0
Neart na Gaoithe	0.09	0.58	0.93		0.05	231		387
Ossian	0.26	0.58	0.93		0.15	1544		7012
Salamander	0.00	0.58	0.93		0.00	0		0
SeaGreen Bravo	0.68	0.58	0.93		0.39	4042		1608
SeaGreen Alpha	0.68	0.58	0.93		0.39	4947		1833
Total population estimates (all projects including Morven North and Morven South)						28,665	6,318	27,150
Displacement mortality	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				143	32	136
Annual mortality (birds/annum)	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				311		
Change in baseline mortality (percentage point change)	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				0.332		

Table 5.90: Summary of population viability analysis results for in-combination displacement impacts on the guillemot feature of the Fowlsheugh Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	354,894	1.025	138.83	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	86.3	0.092	342,570	1.024	130.36	0.999	0.965	42.6
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	208.4	0.223	325,301	1.023	118.93	0.998	0.917	31.7
Applicant	48.9	0.052	347,936	1.025	133.95	0.999	0.980	46.0
In-combination (Scenario 4)								
Baseline	-	-	354,894	1.025	138.83	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	724.1	0.774	262,096	1.016	76.38	0.991	0.738	4.7
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	1,474.6	1.576	191,043	1.007	28.37	0.982	0.538	0.0
Applicant	310.7	0.332	311,937	1.021	109.83	0.996	0.878	24.2

Forth Islands Special Protection Area

5.5.3.104 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.91 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches is above the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been conducted.

Table 5.91: Predicted annual mortality of guillemot at the Forth Islands Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Annual
NatureScot's approach				
Morven South	n/a	4.0 to 12.1	1.1 to 3.4	5.2 to 15.5
Morven North	n/a	10.4 to 31.1	2.9 to 8.7	13.3 to 39.8
Total annual mortality (birds/annum)				18.4 to 55.2
Change in baseline mortality (percentage point change)				0.052 to 0.155
Applicant's approach				
Morven South	n/a	3.4	0.9	4.3
Morven North	n/a	8.6	2.4	11.0
Total annual mortality (birds/annum)				15.3
Change in baseline mortality (percentage point change)				0.043

5.5.3.105 PVA modelling for the guillemot population at the Forth Islands SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.941 to 0.980 (i.e. the population after 35 years would be 2.0 to 5.9% smaller than the CPS with a 50th percentile value of 36.1 to 45.3 (Table 5.93)). In terms of the population size, this means that the median of the impacted population fell within the 36th or 45th centile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.998 to 0.999 which translates to a growth rate 0.1 to 0.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.106 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 1.000 and a median CPS of 0.983 (i.e. the population growth rate would be 0.0% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 1.7% smaller than the counterfactual population size). The 50th percentile value is 46.0, well within the margin of error of the non-impacted scenario. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.107 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the guillemot population of the Forth Islands SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

5.5.3.108 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of guillemot from Forth Islands SPA, there are a number of projects that require consideration in the breeding season. In non-breeding seasons, all projects considered in the

breeding season are included alongside any additional projects located between the Troup, Pennan and Lion's Heads SPA to the north and St Abb's Head to Fast Castle SPA in the south.

5.5.3.109 Table 5.92 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.110 The predicted in-combination impact on guillemot at the Forth Islands SPA is presented in Table 5.92 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the guillemot population at the Forth Islands SPA is 261 to 570 birds/annum when applying NatureScot's approach and 129 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.111 PVA modelling for the guillemot population at the Forth Islands SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.532 to 0.750 (i.e. the population after 35 years, would be 25.0% to 46.8% smaller than the CPS with a 50th percentile value of 0 to 5.4 (Table 5.93)). In terms of the population size, this means that the median of the impacted population fell within the 1st or 5th centile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.982 to 0.992 which translates to a growth rate 0.8 to 1.8% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.112 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 0.996 and a median CPS of 0.868 (i.e. the population growth rate would be 0.4% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 13.2% smaller than the counterfactual population size). The 50th percentile value is 21.5, within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.113 The current population at the SPA is above the population at designation (Table 5.8). The population of guillemot at the Forth Islands SPA decreased between the Seabird 2000 and Seabirds Count national censuses but remains above the designated population (Table 5.8). Under all scenarios the counterfactual scenario predicts a positive population growth rate and under the impacted scenario the population growth rate for guillemot remains positive meaning the population will continue to grow despite the predicted in-combination impact.

5.5.3.114 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.115 The populations of guillemot at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for guillemot for July to March. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination. It is therefore considered that these populations likely represent an over-estimate of the number of guillemot present at each project between July and March.

5.5.3.116 For the Berwick Bank project, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result this project has been required to submit a derogation case which includes compensation measures. The proposed compensatory measures will compensate for the residual effects from this project that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with this project should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.117 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the guillemot population at the SPA. Whilst the PVA modelling predicts that the population growth rate will remain positive this does not correspond with the current trend seen at the SPA where the population is declining and, as a result of the predicted in-combination impact, may decline below the designated population during the lifetime of Morven South.

5.5.3.118 Whilst the in-combination total is considered to be an over-estimate due to various factors discussed in paragraph 5.5.3.6, such overestimation is unlikely to be of a magnitude that would reduce the predicted in-combination total to a level at which impacts that undermine the conservation objectives for the Forth Islands SPA can be ruled out as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.119 Therefore due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for an AEOI on the guillemot population of the Forth Islands SPA as a result of in-combination displacement impacts associated with Morven South and other plans and projects.

Table 5.92: Mean-peak population estimates for guillemot at the Forth Islands Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aberdeen	0.00	0.58	0.93		0.00	0		0
Berwick Bank	0.11	0.58	0.93		0.16	4322		6979
Inch Cape	0.35	0.58	0.93		0.20	1532		787
Kincardine	0.00	0.58	0.93		0.00	0		0
Morven North	0.00	0.58	0.93	0.07	0.07	0	1727	482
Morven South	0.00	0.58	0.93	0.07	0.07	0	672	187
Muir Mhor	0.00	0.58	0.93		0.00	0		0
Neart na Gaoithe	0.65	0.58	0.93		0.37	1704		2852
Ossian	0.00	0.58	0.93		0.06	0		2662
Salamander	0.00	0.58	0.93		0.00	0		0
SeaGreen Bravo	0.10	0.58	0.93		0.06	594		236
SeaGreen Alpha	0.10	0.58	0.93		0.06	726		269
Total population estimates (all projects including Morven North and Morven South)						8,878	2,399	14,455
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				160	14	87
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				266	43	260
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				44	12	72

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				261		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				570		
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				129		
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.735		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				1.604		
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				0.362		

Table 5.93: Summary of population viability analysis results for in-combination displacement impacts on the guillemot feature of the Forth Islands Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	125,462	1.025	139.24	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	18.4	0.052	123,047	1.025	133.44	0.999	0.980	45.5
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	55.2	0.155	118,233	1.024	125.13	0.998	0.941	36.1
Applicant	15.3	0.043	123,438	1.025	123.13	1.000	0.983	46.0
In-combination (Scenario 4)								
Baseline	-	-	125,462	1.025	139.24	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	260.9	0.735	94,128	1.017	79.42	0.992	0.750	5.4
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	569.7	1.604	66,674	1.007	27.30	0.982	0.532	0.0
Applicant	128.7	0.362	109,011	1.021	107.39	0.996	0.868	21.5

St Abb's Head to Fast Castle Special Protection Area

5.5.3.120 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.94 for both NatureScot's and the Applicant's approachThe predicted impact under both approaches is above the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been conducted.

Table 5.94: Predicted annual mortality of guillemot at the St Abb's Head to Fast Castle Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Annual
NatureScot's approach				
Morven South	n/a	7.0 to 20.9	1.9 to 5.8	8.9 to 26.7
Morven North	n/a	17.9 to 53.7	5.0 to 15.0	22.9 to 68.7
Total annual mortality (birds/annum)				31.8 to 95.5
Change in baseline mortality (percentage point change)				0.052 to 0.155
Applicant's approach				
Morven South	n/a	5.8	1.6	7.4
Morven North	n/a	14.9	4.2	19.1
Total annual mortality (birds/annum)				26.5
Change in baseline mortality (percentage point change)				0.043

5.5.3.121 PVA modelling for the guillemot population at the St Abb's Head to Fast Castle SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.941 to 0.980 (i.e. the population after 35 years, would be 2.0% to 5.9% smaller than the CPS with a 50th percentile value of 36.8 to 46.3 (Table 5.96)). In terms of the population size, this means that the median of the impacted population fell within the 37th or 46th percentile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.998 to 0.999 which translates to a growth rate 0.1 to 0.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.122 When modelling the annual impact associated with the Applicant's aproach for guillemot, the comparable metrics are a median CGR of 1.000 and a median CPS of 0.983 (i.e. the population growth rate would be 0.0% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 1.7% smaller than the counterfactual population size). The 50th percentile value is 46.9, well within the margin of error of the non-impacted scenario. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.123 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the guillemot population of the St Abb's Head to Fast Castle SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

5.5.3.124 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of guillemot from the St Abb's Head to Fast Castle SPA, there are a number of projects

that require consideration in the breeding season. In non-breeding seasons, all projects considered in the breeding season are included alongside any additional projects located between the Troup, Pennan and Lion's Heads SPA to the north and St Abb's Head to Fast Castle SPA in the south.

5.5.3.125 Table 5.95 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.126 The predicted in-combination impact on guillemot at the St Abb's Head to Fast Castle SPA is presented in Table 5.95 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the guillemot population at the St Abb's Head to Fast Castle SPA is 498 to 1,040 birds/annum when applying NatureScot's approach and 226 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.127 PVA modelling for the guillemot population at the St Abb's Head to Fast Castle SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.513 to 0.728 (i.e. the population after 35 years, would be 27.2% to 48.7% smaller than the CPS with a 50th percentile value of 0.0 to 4.20 (Table 5.96)). In terms of the population size, this means that the median of the impacted population fell within the 1st or 4th percentile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.981 to 0.991 which translates to a growth rate 0.9 to 1.9% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.128 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 0.996 and a median CPS of 0.866 (i.e. the population growth rate would be 0.4% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 13.4% smaller than the counterfactual population size). The 50th percentile value is 21.5, within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.129 The current population at the SPA is above the population at designation (Table 5.8). The population of guillemot at the St Abb's Head to Fast Castle SPA increased between the Seabird 2000 and Seabirds Count national censuses and has remained stable subsequently (BTO *et al.,* 2025). Under all scenarios the counterfactual scenario predicts a positive population growth rate and under the impacted scenario the population growth rate for guillemot remains positive meaning the population will continue to grow despite the predicted in-combination impact.

5.5.3.130 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.131 The populations of guillemot at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for guillemot for July to March. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination. It is therefore considered that these

populations likely represent an over-estimate of the number of guillemot present at each project between July and March.

5.5.3.132 For the Berwick Bank project, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result this project has been required to submit a derogation case which includes compensation measures. The proposed compensatory measures will compensate for the residual effects from this project that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with this project should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.133 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that could impact the guillemot population at the SPA. However, the population at the SPA is above the cited population (Table 5.8) and as the PVA modelling predicts that the population growth rate will remain positive.

5.5.3.134 When considered alongside other factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of guillemot at the SPA would be maintained.

5.5.3.135 Impacts on guillemot that undermine the conservation objectives of the at the St Abb's Head to Fast Castle SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.136 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the guillemot population of the St Abb's Head to Fast Castle SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.95: Mean-peak population estimates for guillemot at the St Abb's Head to Fast Castle Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aberdeen	0.00	0.58	0.93		0.00	0		0
Berwick Bank	0.42	0.58	0.93		0.33	16496		14576
Inch Cape	0.15	0.58	0.93		0.09	670		344
Kincardine	0.00	0.58	0.93		0.00	0		0
Morven North	0.00	0.58	0.93	0.13	0.13	0	2985	834
Morven South	0.00	0.58	0.93	0.13	0.13	0	1161	323
Muir Mhor	0.00	0.58	0.93		0.00	0		0
Neart na Gaoithe	0.23	0.58	0.93		0.13	595		996
Ossian	0.00	0.58	0.93		0.10	0		4603
Salamander	0.00	0.58	0.93		0.00	0		0
SeaGreen Bravo	0.09	0.58	0.93		0.05	520		207
SeaGreen Alpha	0.09	0.58	0.93		0.05	637		236
Total population estimates (all projects including Morven North and Morven South)						18,918	4,146	22,120
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				341	25	133
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				568	75	398
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				95	21	111

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				498		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				1,040		
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				226		
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.811		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				1.694		
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				0.368		

Table 5.96: Summary of population viability analysis results for in-combination displacement impacts on the guillemot feature of the St Abb's Head to Fast Castle Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	232,797	1.025	138.92	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	31.8	0.052	228,443	1.025	134.03	0.999	0.980	46.3
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	95.5	0.155	219,147	1.023	124.69	0.998	0.941	36.8
Applicant	26.5	0.043	229,092	1.025	134.81	1.000	0.983	46.9
In-combination (Scenario 4)								
Baseline	-	-	232,797	1.025	138.9	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	498.1	0.811	169,649	1.016	73.7	0.991	0.728	4.2
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	1,040.3	1.694	119,442	1.006	22.5	0.981	0.513	0.0
Applicant	225.9	0.368	201,804	1.021	107.0	0.996	0.866	21.5

Troup, Pennan and Lion's Heads Special Protection Area

5.5.3.137 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.97 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches is above the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been conducted.

Table 5.97: Predicted annual mortality of guillemot at the Troup, Pennan and Lion's Heads Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Annual
NatureScot's approach				
Morven South	n/a	3.6 to 10.9	1.0 to 3.0	4.6 to 13.9
Morven North	n/a	9.3 to 27.9	2.6 to 7.8	11.9 to 35.7
Total annual mortality (birds/annum)				16.5 to 49.6
Change in baseline mortality (percentage point change)				0.052 to 0.155
Applicant's approach				
Morven South	n/a	3.0	0.8	3.9
Morven North	n/a	7.8	2.2	9.9
Total annual mortality (birds/annum)				13.8
Change in baseline mortality (percentage point change)				0.043

5.5.3.138 PVA modelling for the guillemot population at the Troup, Pennan and Lion's Heads SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.941 to 0.980 (i.e. the population after 35 years, would be 2.0% to 5.9% smaller than the CPS with a 50th percentile value of 36.3 to 45.3 (Table 5.99)). In terms of the population size, this means that the median of the impacted population fell within the 36th or 45th percentile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.998 to 0.999 which translates to a growth rate 0.1 to 0.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.139 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 1.000 and a median CPS of 0.983 (i.e. the population growth rate would be 0.0% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 1.7% smaller than the counterfactual population size). The 50th percentile value is 46.0, well within the margin of error of the non-impacted scenario. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.140 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the guillemot population of the Troup, Pennan and Lion's Heads SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

5.5.3.141 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of guillemot from the Troup, Pennan and Lion's Heads SPA, there are a number of projects that require consideration in the breeding season. In non-breeding seasons, all projects considered in the breeding season are included alongside any additional projects located between the Troup, Pennan and Lion's Heads SPA to the north and St Abb's Head to Fast Castle SPA in the south.

5.5.3.142 Table 5.98 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.143 The predicted in-combination impact on guillemot at the Troup, Pennan and Lion's Heads SPA is presented in Table 5.98 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the guillemot population at the Troup, Pennan and Lion's Heads SPA is 200 to 425 birds/annum when applying NatureScot's approach and 94 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.144 PVA modelling for the guillemot population at the Troup, Pennan and Lion's Heads SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.592 to 0.782 (i.e. the population after 35 years, would be 21.8% to 40.8% smaller than the CPS with a 50th percentile value of 0.3 to 8.6 (Table 5.99)). In terms of the population size, this means that the median of the impacted population fell within the 1st or 9th percentile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.985 to 0.993 which translates to a growth rate 0.7 to 1.5% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.145 When modelling the annual impact associated with the Applicant's approach for guillemot, the comparable metrics are a median CGR of 0.997 and a median CPS of 0.892 (i.e. the population growth rate would be 0.3% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 10.8% smaller than the counterfactual population size). The 50th percentile value is 25.1, within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.146 The population of guillemot at the Troup, Pennan and Lion's Heads SPA declined between the Seabird 2000 and Seabirds Count national censuses but has remained stable subsequently (BTO *et al.,* 2025). However, the current population is below the population at designation (Table 5.8). Under all scenarios the counterfactual scenario predicts a positive population growth rate and under the impacted scenario the population growth rate for guillemot remains positive meaning the population will continue to grow despite the presence of Morven South.

5.5.3.147 For the Buchan offshore wind farm project, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result this project has been required to submit derogation case which include compensation measures. The proposed compensatory measures will compensate for the residual effects from this project that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with this project should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.148 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.149 The populations of guillemot at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for guillemot for July to March. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination. It is therefore considered that these populations likely represent an over-estimate of the number of guillemot present at each project between July and March.

5.5.3.150 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the guillemot population at the SPA. Whilst the PVA modelling predicts that the population growth rate will remain positive this does not correspond with the current trend seen at the SPA where the population is declining.

5.5.3.151 Whilst the in-combination total is considered to be an over-estimate due to various factors discussed in paragraph 5.5.3.6, such overestimation is unlikely to be of a magnitude that would reduce the predicted in-combination total to a level at which impacts that undermine the conservation objectives for the Forth Islands SPA can be ruled out as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.152 Therefore due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for an AEOI on the guillemot population of the Troup, Pennan and Lion's Heads SPA as a result of in-combination displacement impacts associated with Morven South and other plans and projects.

Table 5.98: Mean-peak population estimates for guillemot at the Troup, Pennan and Lion's Heads Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aberdeen	0.00	0.58	0.93		0.11	0		24
Beatrice	0.02	0.58	0.93		0.04	109		222
Berwick Bank	0.00	0.58	0.93		0.03	0		1148
Buchan	0.37	0.58	0.93		0.21	1569		1688
Caledonia North	0.07	0.58	0.93		0.01	282		13
Caledona South	0.16	0.58	0.93		0.01	975		52
Green Volt	0.12	0.58	0.93		0.01	287		153
Inch Cape	0.00	0.58	0.93		0.00	0		0
Kincardine	0.02	0.58	0.93		0.01	5		74
Moray East	0.05	0.58	0.93			287		0
Moray West	0.06	0.58	0.93		0.01	784		382
Morven North	0.00	0.58	0.93	0.07	0.07	0	1550	433
Morven South	0.00	0.58	0.93	0.07	0.07	0	603	168
Muir Mhor	0.37	0.58	0.93		0.21	2581		2509
Neart na Gaoithe	0.00	0.58	0.93		0.00	0		0
Ossian	0.00	0.58	0.93		0.05	0		2391
Salamander	0.23	0.58	0.93		0.00	440		0
SeaGreen Bravo	0.00	0.58	0.93		0.00	0		0

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Non-breeding	Breeding	Post-breeding	Non-breeding
	Colony	Immature	Sabbatical					
SeaGreen Alpha	0.00	0.58	0.93		0.00	0		0
Total population estimates (all projects including Morven North and Morven South)						7,319	2,153	9,255
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				132	13	56
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				220	39	167
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				37	11	46
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				200		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				425		
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				94		
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.628		
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)				1.332		
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)				0.294		

Table 5.99: Summary of population viability analysis results for in-combination displacement impacts on the guillemot feature of the Troup, Pennan and Lion's Heads Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	124,364	1.025	140.1	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	16.5	0.052	121,784	1.025	135.4	0.999	0.980	45.3
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	49.6	0.155	117,010	1.024	125.9	0.998	0.941	36.3
Applicant	13.8	0.043	122,276	1.025	136.2	1.000	0.983	46.0
In-combination (Scenario 4)								
Baseline	-	-	124,364	1.025	140.1	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	200.2	0.628	97,212	1.018	87.8	0.993	0.782	8.6
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	424.9	1.332	73,663	1.010	42.2	0.985	0.592	0.3
Applicant	93.6	0.294	110,776	1.022	114.1	0.997	0.892	25.1

Razorbill

5.5.3.153 Mean-peak population estimates for razorbill apportioned to each of the SPAs identified in paragraph 5.5.3.1 are presented on a seasonal basis in the following SPA-specific sections. Impacts predicted for each SPA using the displacement and mortality rates advocated by NatureScot and the Applicant are also provided. The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance

5.5.3.154 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

East Caithness Cliffs Special Protection Area

5.5.3.155 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.100 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.156 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the East Caithness Cliffs SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.100: Predicted annual mortality of razorbill at the East Caithness Cliffs Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Pre-breeding	Annual
NatureScot's approach					
Morven South	n/a	0.7 to 2.2	0.1 to 0.2	0.0 to 0.1	0.8 to 2.5
Morven North	n/a	1.7 to 5.0	0.1 to 0.3	0.0 to 0.1	1.8 to 5.4
Total annual mortality (birds/annum)					2.6 to 7.9
Change in baseline mortality (percentage point change)					0.006 to 0.018
Applicant's approach					
Morven South	n/a	0.6	0.1	0.0	0.7
Morven North	n/a	1.4	0.1	0.0	1.5
Total annual mortality (birds/annum)					2.2
Change in baseline mortality (percentage point change)					0.005

5.5.3.157 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of razorbill from the East Caithness Cliffs SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons

all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.158 Table 5.101 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.159 The predicted in-combination impact on razorbill at the East Caithness Cliffs SPA is presented in Table 5.101 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the razorbill population at the East Caithness Cliffs SPA is 116 to 257 birds/annum when applying NatureScot's approach and 59 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.160 PVA modelling for the razorbill population at the East Caithness Cliffs SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.790 to 0.899 (i.e. the population after 35 years, would be 10.1% to 21.0% smaller than the CPS with a 50th percentile value of 31.0 to 41.1 (Table 5.102)). In terms of the population size, this means that the median of the impacted population fell within the 31st or 41st percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.993 to 0.997 which translates to a growth rate 0.3 to 0.7% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.161 When modelling the annual impact associated with the Applicant's approach for razorbill, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.948 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 5.2% smaller than the counterfactual population size). The 50th percentile value is 45.4, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.162 The current population at the SPA is above the population at designation (Table 5.8). The population of razorbill at the East Caithness Cliffs SPA increased between the Seabird 2000 and Seabirds Count national censuses but has remained stable subsequently (BTO *et al.,* 2025).

5.5.3.163 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.164 The populations of razorbill at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for razorbill for July to January. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination in all months except January. It is therefore considered that these populations likely represent an over-estimate of the number of razorbill present at each project between July and December.

5.5.3.165 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have

been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Green Volt and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.166 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the razorbill population at the SPA from being maintained, noting that the population of razorbill at the SPA is significantly higher than the designated population.

5.5.3.167 When the factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of razorbill at the SPA would be maintained.

5.5.3.168 Impacts on razorbill that undermine the conservation objectives of the at the East Caithness Cliffs SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.169 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the East Caithness Cliffs SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.101: Mean-peak population estimates for razorbill at the East Caithness Cliffs Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Tier 1 (Scenario 4)										
Aberdeen				0.04	0.03	0.04		2	0	1
Aspen	0.00			0.04	0.03	0.04		0	1	1
Beatrice	0.98	0.57	0.93	0.04	0.03	0.04	516	0	72	0
Berwick Bank				0.04	0.03	0.04		374	48	316
Blyth Demo				0.04	0.03	0.04		4	1	0
Buchan	0.51	0.57	0.93	0.04	0.03	0.04	71	3	1	5
Caledonia North	0.75	0.57	0.93	0.04	0.03	0.04	349	56	4	15
Caledonia South	0.67	0.57	0.93	0.04	0.03	0.04	389	34	6	11
Cenos				0.04	0.03	0.04				
Dogger Bank A				0.04	0.03	0.04		136	77	259
Dogger Bank B				0.04	0.03	0.04		168	95	319
Dogger Bank South				0.04	0.03	0.04		268	200	266
Dogger Bank C				0.04	0.03	0.04		34	40	113
Sofia				0.04	0.03	0.04		58	58	173
Dudgeon				0.04	0.03	0.04		5	24	19

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Dudgeon Extension				0.04	0.03	0.04		39	29	14
East Anglia One				0.04	0.03	0.04		3	10	33
East Anglia One North				0.04	0.03	0.04		4	2	9
East Anglia Three				0.04	0.03	0.04		47	51	64
East Anglia Two				0.04	0.03	0.04		2	5	10
Five Estuaries				0.04	0.03	0.04		12	36	32
Galloper				0.04	0.03	0.04		2	5	33
Green Volt	0.57			0.04	0.03	0.04		0	2	0
Hornsea Project One				0.04	0.03	0.04		372	72	97
Hornsea Project Two				0.04	0.03	0.04		178	25	70
Hornsea Project Three				0.04	0.03	0.04		85	125	52
Hornsea Four				0.04	0.03	0.04		182	16	19
Humber Gateway				0.04	0.03	0.04		5	2	1
Inch Cape				0.04	0.03	0.04		315	20	32
Kincardine				0.04	0.03	0.04		0	0	0

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Lincs				0.04	0.03	0.04		7	1	0
Moray East	0.75	0.57	0.93	0.04	0.03	0.04	1054	0	49	0
Moray West	0.94	0.57	0.93	0.04	0.03	0.04	1402	150	6	151
Morven North	0.00	0.00	0.00	0.04	0.03	0.04		276	18	5
Morven South	0.00	0.00	0.00	0.04	0.03	0.04		124	14	4
Muir Mhor				0.04	0.03	0.04		59	1	5
Neart na Gaoithe				0.04	0.03	0.04		0	106	0
Norfolk Boreas				0.04	0.03	0.04		11	37	15
Norfolk Vanguard				0.04	0.03	0.04		37	22	39
North Falls				0.04	0.03	0.04		10	61	74
Ossian				0.04	0.03	0.04		110	5	9
Outer Dowsing				0.04	0.03	0.04		92	61	217
Pentland	0.16	0.57	0.93	0.04	0.03	0.04	12	1	1	1
Race Bank				0.04	0.03	0.04		12	3	1
Rampion				0.04	0.03	0.04		0	5	22
Rampion 2				0.04	0.03	0.04		1	41	266
Salamander				0.04	0.03	0.04		0	17	0
SeaGreen Bravo				0.04	0.03	0.04		54	8	26

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
SeaGreen Alpha				0.04	0.03	0.04		56	26	40
Sheringham Shoal Extension				0.04	0.03	0.04		13	24	6
Teesside				0.04	0.03	0.04		3	0	1
Thanet				0.04	0.03	0.04		0	2	1
Triton Knoll				0.04	0.03	0.04		28	76	19
West of Orkney	0.34	0.57	0.93	0.04	0.03	0.04	26	5	1	6
Total population estimates (all projects including Morven North and Morven South)							3,817	3,438	1,609	2,871
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					69	21	10	17
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					115	62	29	52
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					19	17	8	14
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					116			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					257			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					59			
Change in baseline	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					0.258			

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					0.572			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					0.130			

Table 5.102: Summary of population viability analysis results for in-combination displacement impacts on the razorbill feature of the East Caithness Cliffs Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	12,244	0.976	-57.06	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	116.2	0.258	11,000	0.973	-61.30	0.997	0.899	41.1
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	257.0	0.572	9,666	0.970	-66.10	0.993	0.790	31.0
Applicant	58.7	0.131	11,589	0.975	-59.26	0.999	0.948	45.4

Flamborough and Filey Coast Special Protection Area

5.5.3.170 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.103 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.171 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the Flamborough and Filey Coast SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.103: Predicted annual mortality of razorbill at the Flamborough and Filey Coast Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Pre-breeding	Annual
NatureScot's approach					
Morven South	n/a	0.6 to 1.8	0.1 to 0.2	0.0 to 0.1	0.7 to 2.0
Morven North	n/a	1.3 to 4.0	0.1 to 0.3	0.0 to 0.1	1.4 to 4.3
Total annual mortality (birds/annum)					2.1 to 6.3
Change in baseline mortality (percentage point change)					0.005 to 0.014
Applicant's approach					
Morven South	n/a	0.5	0.1	0.0	0.6
Morven North	n/a	1.1	0.1	0.0	1.2
Total annual mortality (birds/annum)					1.8
Change in baseline mortality (percentage point change)					0.004

5.5.3.172 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of razorbill from the Flamborough and Filey Coast SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.173 Table 5.104 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.174 The predicted in-combination impact on razorbill at the Flamborough and Filey Coast SPA is presented in Table 5.104 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the razorbill population at the Flamborough and Filey Coast SPA is 147 to 296 birds/annum when applying NatureScot's approach and 62 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.175 PVA modelling for the razorbill population at the Flamborough and Filey Coast SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.762 to 0.874 (i.e. the population after 35 years, would be 12.6% to 23.8% smaller than the CPS with a 50th percentile value of 28.2 to 38.8 (Table 5.105)). In terms of the population size, this means that the median of the impacted population fell within the 28th or 39th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.992 to 0.996 which translates to a growth rate 0.4 to 0.8% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.176 When modelling the annual impact associated with the Applicant's approach for razorbill, the comparable metrics are a median CGR of 0.998 and a median CPS of 0.945 (i.e. the population growth rate would be 0.2% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 5.5% smaller than the counterfactual population size). The 50th percentile value is 45.2, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.177 The current population at the SPA is above the population at designation (Table 5.8). The population of razorbill at the Flamborough and Filey Coast SPA increased between the Seabird 2000 and Seabirds Count national censuses but has remained stable subsequently (BTO *et al.,* 2025).

5.5.3.178 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.179 The populations of razorbill at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for razorbill for July to January. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination in all months except January. It is therefore considered that these populations likely represent an over-estimate of the number of razorbill present at each project between July and December.

5.5.3.180 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Dogger Bank South, Five Estuaries, North Falls, Outer Dowsing, Sheringham Shoal Extension and Dudgeon Extension. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.181 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the razorbill population at the SPA from being maintained, noting that the population of razorbill at the SPA is significantly higher than the designated population.

5.5.3.182 When the factors discussed in paragraphs 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of razorbill at the SPA would be maintained.

5.5.3.183 Impacts on razorbill that undermine the conservation objectives of the at the Flamborough and Filey Coast SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.184 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the Flamborough and Filey Coast SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.104: Mean-peak population estimates for razorbill at the Flamborough and Filey Coast Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Tier 1 (Scenario 4)										
Aberdeen European Offshore Wind Deployment Centre				0.03	0.03	0.03		1	0	1
Aspen	0.00			0.03	0.03	0.03		0	1	1
Beatrice				0.03	0.03	0.03		0	57	0
Berwick Bank	0.01			0.03	0.03	0.03		299	38	253
Blyth Demonstration Project (Phase 1)	0.84	0.57	0.93	0.03	0.03	0.03	23	3	0	0
Buchan				0.03	0.03	0.03		2	1	4
Caledonia North	0.00			0.03	0.03	0.03		44	3	12
Caledonia South	0.00			0.03	0.03	0.03		27	5	8
Cenos	0.00			0.03	0.03	0.03				
Dogger Bank Creyke Beck A				0.03	0.03	0.03		109	61	207
Dogger Bank Creyke Beck B				0.03	0.03	0.03		135	76	255
Dogger Bank South	1.00	0.57	0.93	0.03	0.03	0.03	1501	215	160	213
Dogger Bank Teesside A				0.03	0.03	0.03		27	32	91
Sofia (Dogger Bank Teesside B)				0.03	0.03	0.03		46	46	139

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Dudgeon				0.03	0.03	0.03		4	19	15
Dudgeon Extension				0.03	0.03	0.03		31	23	11
East Anglia One				0.03	0.03	0.03		2	8	27
East Anglia One North				0.03	0.03	0.03		3	1	7
East Anglia Three				0.03	0.03	0.03		38	41	52
East Anglia Two				0.03	0.03	0.03		1	4	8
Five Estuaries				0.03	0.03	0.03		10	29	26
Galloper				0.03	0.03	0.03		2	4	26
Green Volt	0.00			0.03	0.03	0.03		0	2	0
Hornsea Project One	1.00	0.57	0.93	0.03	0.03	0.03	1233	298	57	78
Hornsea Project Two	1.00	0.57	0.93	0.03	0.03	0.03	1333	143	20	56
Hornsea Three				0.03	0.03	0.03		68	100	42
Hornsea Four	1.00	0.57	0.93	0.03	0.03	0.03	205	146	12	15
Humber Gateway	1.00	0.57	0.93	0.03	0.03	0.03	10	4	1	1
Inch Cape				0.03	0.03	0.03		252	16	26
Kincardine				0.03	0.03	0.03		0	0	0
Lincs	1.00	0.57	0.93	0.03	0.03	0.03	0	6	1	0
Moray East				0.03	0.03	0.03		0	39	0
Moray West				0.03	0.03	0.03		120	5	121
Morven North	0.00	0.00	0.00	0.03	0.03	0.03		221	15	4

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Morven South	0.00	0.00	0.00	0.03	0.03	0.03		99	11	3
Muir Mhor				0.03	0.03	0.03		47	1	4
Neart na Gaoithe				0.03	0.03	0.03		0	85	0
Norfolk Boreas				0.03	0.03	0.03		9	29	12
Norfolk Vanguard				0.03	0.03	0.03		29	17	31
North Falls				0.03	0.03	0.03		8	49	59
Ossian				0.03	0.03	0.03		88	4	8
Outer Dowsing	1.00	0.57	0.93	0.03	0.03	0.03	1678	74	49	174
Race Bank	1.00	0.57	0.93	0.03	0.03	0.03	16	10	3	1
Rampion				0.03	0.03	0.03		0	4	17
Rampion 2				0.03	0.03	0.03		1	33	213
Salamander				0.03	0.03	0.03		0	13	0
Seagreen Bravo				0.03	0.03	0.03		43	7	21
Seagreen Alpha				0.03	0.03	0.03		45	21	32
Sheringham Shoal Extension				0.03	0.03	0.03		11	19	5
Teesside	1.00	0.57	0.93	0.03	0.03	0.03	16	3	0	1
Thanet				0.03	0.03	0.03		0	2	1
Triton Knoll	1.00	0.57	0.93	0.03	0.03	0.03	71	23	61	15
Total population estimates (all projects including Morven North and Morven South)							6,085	2,746	1,286	2,292
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					110	16	8	14

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					183	49	23	41
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					30	14	6	11
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					147			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					296			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					62			
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					0.327			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					0.657			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					0.138			

Table 5.105: Summary of population viability analysis results for in-combination displacement impacts on the razorbill feature of the Flamborough and Filey Coast Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	11,917	0.976	-57.22	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	147.5	0.327	10,371	0.972	-62.60	0.9962	0.8737	38.8
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	296.4	0.657	9,054	0.969	-67.41	0.9923	0.7624	28.2
Applicant	62.0	0.138	11,218	0.975	-59.49	0.9984	0.9448	45.2

Forth Islands Special Protection Area

5.5.3.185 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.106 for both NatureScot's and the Applicant's approach. The predicted impact under the upper NatureScot displacement and mortality rate scenario exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been undertaken.

Table 5.106: Predicted annual mortality of razorbill at the Forth Islands Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Pre-breeding	Annual
NatureScot's approach					
Morven South	0.1 to 0.1	0.2 to 0.5	0.0 to 0.1	0.0 to 0.0	0.3 to 0.7
Morven North	0.4 to 0.6	0.3 to 1.0	0.0 to 0.1	0.0 to 0.0	0.7 to 1.7
Total annual mortality (birds/annum)					1.0 to 2.4
Change in baseline mortality (percentage point change)					0.012 to 0.028
Applicant's approach					
Morven South	0.0	0.1	0.0	0.0	0.2
Morven North	0.1	0.3	0.0	0.0	0.4
Total annual mortality (birds/annum)					0.6
Change in baseline mortality (percentage point change)					0.007

5.5.3.186 PVA modelling for the razorbill population at the Forth Island SPA when applying the annual impact calculated using NatureScot's upper displacement and mortality rates indicates a median CPS of 0.988 (i.e. the population after 35 years, would be 1.2% smaller than the CPS with a 50th percentile value of 49.1 (Table 5.108)). In terms of the population size, this means that the median of the impacted population fell within the 49th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 1.000 which translates to a growth rate 0.0% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.187 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the Forth Islands SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

5.5.3.188 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of razorbill from the Forth Islands SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all

projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.189 Table 5.107 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.190 The predicted in-combination impact on razorbill at the Forth Islands SPA is presented in Table 5.107 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the razorbill population at the Forth Islands SPA is 49 to 95 birds/annum when applying NatureScot's approach and 19 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.191 PVA modelling for the razorbill population at the Forth Island SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.630 to 0.789 (i.e. the population after 35 years, would be 21.1% to 37.0% smaller than the CPS with a 50th percentile value of 16.9 to 30.6 (Table 5.108)). In terms of the population size, this means that the median of the impacted population fell within the 17th or 31st percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.987 to 0.993 which translates to a growth rate 0.7 to 1.3% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.192 When modelling the annual impact associated with the Applicant's approach for razorbill, the comparable metrics are a median CGR of 0.997 and a median CPS of 0.912 (i.e. the population growth rate would be 0.3% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 8.8% smaller than the counterfactual population size). The 50th percentile value is 42.2, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.193 The current population at the SPA is above the population at designation (Table 5.8). The population of razorbill at the Forth Islands SPA increased between the Seabird 2000 and Seabirds Count national censuses but has remained stable subsequently (BTO *et al.,* 2025).

5.5.3.194 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.195 The populations of razorbill at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for razorbill for July to January. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination in all months except January. It is therefore considered that these populations likely represent an over-estimate of the number of razorbill present at each project between July and December.

5.5.3.196 For the Berwick Bank project, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result this project has been required to submit a derogation case which includes compensation measures. The proposed

compensatory measures will compensate for the residual effects from this project that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with this project should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.197 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the razorbill population at the SPA. However, the population at the SPA is significantly above the cited population (Table 5.8) and as the PVA modelling predicts that the population growth rate will remain positive, the conservation objectives for the SPA will not be undermined.

5.5.3.198 When the factors discussed in paragraphs 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of razorbill at the SPA would be maintained.

5.5.3.199 Impacts on razorbill that undermine the conservation objectives of the at the Forth Islands SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.200 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the Forth Islands SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.107: Mean-peak population estimates for razorbill at the Forth Islands Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Tier 1 (Scenario 4)										
Aberdeen European Offshore Wind Deployment Centre	0.04	0.57	0.93	0.01	0.01	0.01	4	0	0	0
Aspen	0.00			0.01	0.01	0.01		0	0	0
Beatrice				0.01	0.01	0.01		0	15	0
Berwick Bank	0.27	0.57	0.93	0.01	0.01	0.01	569	78	10	66
Blyth Demonstration Project (Phase 1)				0.01	0.01	0.01		1	0	0
Buchan				0.01	0.01	0.01		1	0	1
Caledonia North	0.00			0.01	0.01	0.01		12	1	3
Caledonia South	0.00			0.01	0.01	0.01		7	1	2
Cenos	0.00			0.01	0.01	0.01				
Dogger Bank Creyke Beck A				0.01	0.01	0.01		29	16	54
Dogger Bank Creyke Beck B				0.01	0.01	0.01		35	20	67
Dogger Bank South				0.01	0.01	0.01		56	42	56

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Dogger Bank Teesside A				0.01	0.01	0.01		7	8	24
Sofia (Dogger Bank Teesside B)				0.01	0.01	0.01		12	12	36
Dudgeon				0.01	0.01	0.01		1	5	4
Dudgeon Extension				0.01	0.01	0.01		8	6	3
East Anglia One				0.01	0.01	0.01		1	2	7
East Anglia One North				0.01	0.01	0.01		1	0	2
East Anglia Three				0.01	0.01	0.01		10	11	14
East Anglia Two				0.01	0.01	0.01		0	1	2
Five Estuaries				0.01	0.01	0.01		3	8	7
Galloper				0.01	0.01	0.01		0	1	7
Green Volt	0.00			0.01	0.01	0.01		0	0	0
Hornsea Project One				0.01	0.01	0.01		78	15	20
Hornsea Project Two				0.01	0.01	0.01		37	5	15
Hornsea Three				0.01	0.01	0.01		18	26	11
Hornsea Four				0.01	0.01	0.01		38	3	4
Humber Gateway				0.01	0.01	0.01		1	0	0
Inch Cape	0.24	0.57	0.93	0.01	0.01	0.01	592	66	4	7

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Kincardine	0.00	0.57	0.93	0.01	0.01	0.01	0	0	0	0
Lincs				0.01	0.01	0.01		1	0	0
Moray East				0.01	0.01	0.01		0	10	0
Moray West				0.01	0.01	0.01		31	1	32
Morven North	0.12	0.57	0.93	0.01	0.01	0.01		58	4	1
Morven South	0.16	0.57	0.93	0.01	0.01	0.01		26	3	1
Muir Mhor				0.01	0.01	0.01		12	0	1
Neart na Gaoithe	0.71	0.57	0.93	0.01	0.01	0.01	469	0	22	0
Norfolk Boreas				0.01	0.01	0.01		2	8	3
Norfolk Vanguard				0.01	0.01	0.01		8	5	8
North Falls				0.01	0.01	0.01		2	13	15
Ossian	0.15	0.57	0.93	0.01	0.01	0.01	41	23	1	2
Outer Dowsing				0.01	0.01	0.01		19	13	46
Race Bank				0.01	0.01	0.01		3	1	0
Rampion				0.01	0.01	0.01		0	1	5
Rampion 2				0.01	0.01	0.01		0	9	56
Salamander				0.01	0.01	0.01		0	3	0
Seagreen Bravo	0.10	0.57	0.93	0.01	0.01	0.01	201	11	2	5
Seagreen Alpha	0.10	0.57	0.93	0.01	0.01	0.01	304	12	6	8
Sheringham Shoal Extension				0.01	0.01	0.01		3	5	1

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Teesside				0.01	0.01	0.01		1	0	0
Thanet				0.01	0.01	0.01		0	0	0
Triton Knoll				0.01	0.01	0.01		6	16	4
Total population estimates (all projects including Morven North and Morven South)							2,180	721	338	602
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					39	4	2	4
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					65	13	6	11
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					11	4	2	3
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					49			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					95			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					19			
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					0.579			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					1.121			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					0.226			

Table 5.108: Summary of population viability analysis results for in-combination displacement impacts on the razorbill feature of the Forth Islands Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	2,374	0.976	-56.96	-	-	-
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	2.4	0.028	2,341	0.976	-57.60	1.000	0.988	49.1
In-combination (Scenario 4)								
Baseline	-	-	2,369	0.976	-56.88	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	49.2	0.579	1,863	0.970	-66.15	0.993	0.789	30.6
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	95.3	1.121	1,500	0.963	-72.90	0.987	0.630	16.9
Applicant	19.2	0.226	2,155	0.974	-60.74	0.997	0.912	42.2

Fowlsheugh Special Protection Area

5.5.3.201 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.109 for both NatureScot's and the Applicant's approach. The predicted impact under the upper NatureScot displacement and mortality rate scenario exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been undertaken.

Table 5.109: Predicted annual mortality of razorbill at the Fowlsheugh Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Pre-breeding	Annual
NatureScot's approach					
Morven South	0.3 to 0.4	0.2 to 0.6	0.0 to 0.1	0.0 to 0.0	0.5 to 1.1
Morven North	1.6 to 2.6	0.5 to 1.4	0.0 to 0.1	0.0 to 0.0	2.1 to 4.1
Total annual mortality (birds/annum)					2.6 to 5.3
Change in baseline mortality (percentage point change)					0.012 to 0.025
Applicant's approach					
Morven South	0.1	0.2	0.0	0.0	0.3
Morven North	0.4	0.4	0.0	0.0	0.9
Total annual mortality (birds/annum)					1.1
Change in baseline mortality (percentage point change)					0.005

5.5.3.202 PVA modelling for the razorbill population at the Fowlsheugh SPA when applying the annual impact calculated using NatureScot's upper displacement and mortality rates indicates a median CPS of 0.989 (i.e. the population after 35 years, would be 1.0% smaller than the CPS with a 50th percentile value of 49.4 (Table 5.111)). In terms of the population size, this means that the median of the impacted population fell within the 49th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 1.000 which translates to a growth rate 0.0% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.203 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the Fowlsheugh SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

5.5.3.204 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of razorbill from the Fowlsheugh SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all

projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.205 Table 5.110 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.206 The predicted in-combination impact on razorbill at the Fowlsheugh SPA is presented in Table 5.110 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the razorbill population at the Fowlsheugh SPA is 104 to 192 birds/annum when applying NatureScot's approach and 36 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.207 PVA modelling for the razorbill population at the Fowlsheugh SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.685 to 0.814 (i.e. the population after 35 years, would be 18.6% to 31.5% smaller than the CPS with a 50th percentile value of 21.2 to 32.9 (Table 5.111)). In terms of the population size, this means that the median of the impacted population fell within the 21st or 33rd percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.989 to 0.994 which translates to a growth rate 0.6 to 1.1% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.208 When modelling the annual impact associated with the Applicant's approach for razorbill, the comparable metrics are a median CGR of 0.998 and a median CPS of 0.931 (i.e. the population growth rate would be 0.2% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 6.9% smaller than the counterfactual population size). The 50th percentile value is 44.4, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.209 The current population at the SPA is above the population at designation (Table 5.8). The population of razorbill at the Fowlsheugh SPA increased between the Seabird 2000 and Seabirds Count national censuses but has remained stable subsequently (BTO *et al.,* 2025).

5.5.3.210 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.211 The populations of razorbill at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for razorbill for July to January. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination in all months except January. It is therefore considered that these populations likely represent an over-estimate of the number of razorbill present at each project between July and December.

5.5.3.212 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Ossian and Salamander. The proposed compensatory measures

will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.213 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the razorbill population at the SPA. The population at the SPA is above the cited population (Table 5.8) and the population has increased between the two most recent national census. The in-combination impact is considered to be an over-estimate due to various factors discussed in paragraph 5.5.3.6 and when some of these are taken into account within the Applicant's approach, the predicted effect on the growth rate of the SPA population as predicted by the PVA modelling is not considered to be of a magnitude that would prevent the razorbill population at the SPA from recovering.

5.5.3.214 When the factors discussed in paragraphs 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of razorbill at the SPA would be maintained.

5.5.3.215 Impacts on razorbill that undermine the conservation objectives of the at the Fowlsheugh SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.216 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the Fowlsheugh SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.110: Mean-peak population estimates for razorbill at the Fowlsheugh Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Tier 1 (Scenario 4)										
Aberdeen European Offshore Wind Deployment Centre	0.87	0.57	0.93	0.01	0.01	0.01	81	0	0	0
Aspen	0.00			0.01	0.01	0.01		0	0	0
Beatrice				0.01	0.01	0.01		0	20	0
Berwick Bank	0.29	0.57	0.93	0.01	0.01	0.01	626	105	14	89
Blyth Demonstration Project (Phase 1)				0.01	0.01	0.01		1	0	0
Buchan				0.01	0.01	0.01		1	0	2
Caledonia North	0.00			0.01	0.01	0.01		16	1	4
Caledonia South	0.00			0.01	0.01	0.01		10	2	3
Cenos	0.00			0.01	0.01	0.01				
Dogger Bank Creyke Beck A				0.01	0.01	0.01		38	22	73
Dogger Bank Creyke Beck B				0.01	0.01	0.01		47	27	90
Dogger Bank South				0.01	0.01	0.01		76	56	75

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Dogger Bank Teesside A				0.01	0.01	0.01		10	11	32
Sofia (Dogger Bank Teesside B)				0.01	0.01	0.01		16	16	49
Dudgeon				0.01	0.01	0.01		1	7	5
Dudgeon Extension				0.01	0.01	0.01		11	8	4
East Anglia One				0.01	0.01	0.01		1	3	9
East Anglia One North				0.01	0.01	0.01		1	1	2
East Anglia Three				0.01	0.01	0.01		13	14	18
East Anglia Two				0.01	0.01	0.01		1	1	3
Five Estuaries				0.01	0.01	0.01		3	10	9
Galloper				0.01	0.01	0.01		1	1	9
Green Volt	0.00			0.01	0.01	0.01		0	1	0
Hornsea Project One				0.01	0.01	0.01		105	20	27
Hornsea Project Two				0.01	0.01	0.01		50	7	20
Hornsea Three				0.01	0.01	0.01		24	35	15
Hornsea Four				0.01	0.01	0.01		51	4	5
Humber Gateway				0.01	0.01	0.01		1	1	0
Inch Cape	0.37	0.57	0.93	0.01	0.01	0.01	927	89	6	9

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Kincardine	1.00	0.57	0.93	0.01	0.01	0.01	34	0	0	0
Lincs				0.01	0.01	0.01		2	0	0
Moray East				0.01	0.01	0.01		0	14	0
Moray West				0.01	0.01	0.01		42	2	43
Morven North	0.52	0.57	0.93	0.01	0.01	0.01	88	78	5	1
Morven South	0.46	0.57	0.93	0.01	0.01	0.01	14	35	4	1
Muir Mhor	0.42	0.57	0.93	0.01	0.01	0.01	347	17	0	1
Neart na Gaoithe	0.08	0.57	0.93	0.01	0.01	0.01	51	0	30	0
Norfolk Boreas				0.01	0.01	0.01		3	10	4
Norfolk Vanguard				0.01	0.01	0.01		10	6	11
North Falls				0.01	0.01	0.01		3	17	21
Ossian	0.42	0.57	0.93	0.01	0.01	0.01	117	31	1	3
Outer Dowsing				0.01	0.01	0.01		26	17	61
Race Bank				0.01	0.01	0.01		3	1	0
Rampion				0.01	0.01	0.01		0	2	6
Rampion 2				0.01	0.01	0.01		0	12	75
Salamander	0.24	0.57	0.93	0.01	0.01	0.01	42	0	5	0
Seagreen Bravo	0.56	0.57	0.93	0.01	0.01	0.01	1087	15	2	7
Seagreen Alpha	0.56	0.57	0.93	0.01	0.01	0.01	1649	16	7	11
Sheringham Shoal Extension				0.01	0.01	0.01		4	7	2

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Teesside				0.01	0.01	0.01		1	0	0
Thanet				0.01	0.01	0.01		0	1	0
Triton Knoll				0.01	0.01	0.01		8	21	5
Total population estimates (all projects including Morven North and Morven South)							5,062	968	453	808
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					91	6	3	5
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					152	17	8	15
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					25	5	2	4
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					104			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					192			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					36			
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					0.498			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					0.915			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					0.174			

Table 5.111: Summary of population viability analysis results for in-combination displacement impacts on the razorbill feature of the Fowlsheugh Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	5,705	0.976	-56.91	-	-	-
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	5.3	0.025	5,662	0.976	-57.47	1.000	0.989	49.4
In-combination (Scenario 4)								
Baseline	-	-	5,706	0.9762	-57.00	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	104.5	0.498	4,638	0.9704	-65.11	0.994	0.814	32.9
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	192.0	0.915	3,895	0.9656	-70.67	0.989	0.685	21.2
Applicant	36.5	0.174	5,319	0.9742	-59.95	0.998	0.931	44.4

St Abb's Head to Fast Castle Special Protection Area

5.5.3.217 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.112 for both NatureScot's and the Applicant's approach. The predicted impact under the upper NatureScot displacement and mortality rate scenario exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been undertaken.

Table 5.112: Predicted annual mortality of razorbill at the St Abb's Head to Fast Castle Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Non-breeding	Pre-breeding	Annual
NatureScot's approach					
Morven South	0.0 to 0.1	0.1 to 0.2	0.0 to 0.0	0.0 to 0.0	0.1 to 0.3
Morven North	0.2 to 0.3	0.2 to 0.5	0.0 to 0.0	0.0 to 0.0	0.3 to 0.8
Total annual mortality (birds/annum)					0.5 to 1.1
Change in baseline mortality (percentage point change)					0.011 to 0.026
Applicant's approach					
Morven South	0.0	0.1	0.0	0.0	0.1
Morven North	0.0	0.1	0.0	0.0	0.2
Total annual mortality (birds/annum)					0.3
Change in baseline mortality (percentage point change)					0.006

5.5.3.218 PVA modelling for the razorbill population at the St Abb's Head to Fast Castle SPA when applying the annual impact calculated using NatureScot's upper displacement and mortality rates indicates a median CPS of 0.990 (i.e. the population after 35 years, would be 1.0% smaller than the CPS with a 50th percentile value of 49.6 (Table 5.114)). In terms of the population size, this means that the median of the impacted population fell within the 50th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 1.000 which translates to a growth rate 0.0% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.219 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the razorbill population of the St Abb's Head to Fast Castle SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

5.5.3.220 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of razorbill from the St Abb's Head to Fast Castle SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding

seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.221 Table 5.113 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.222 The predicted in-combination impact on razorbill at the St Abb's Head to Fast Castle SPA is presented in Table 5.113 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the razorbill population at the St Abb's Head to Fast Castle SPA is 23 to 45 birds/annum when applying NatureScot's approach and 9 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.223 PVA modelling for the razorbill population at the St Abb's Head to Fast Castle SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.654 to 0.802 (i.e. the population after 35 years, would be 19.8% to 34.7% smaller than the CPS with a 50th percentile value of 18.6 to 31.9 (Table 5.114)). In terms of the population size, this means that the median of the impacted population fell within the 19th or 32nd percentile of the unimpacted population (a value of 50 would indicate that they are the same). However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.988 to 0.994 which translates to a growth rate 0.6 to 1.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.224 When modelling the annual impact associated with the Applicant's approach for razorbill, the comparable metrics are a median CGR of 0.998 and a median CPS of 0.919 (i.e. the population growth rate would be 0.2% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 8.1% smaller than the counterfactual population size). The 50th percentile value is 43.2, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.225 The current population at the SPA is above the population at designation (Table 5.8) however, the population of razorbill at the St Abb's Head to Fast Castle SPA has declined between the Seabird 2000 and Seabirds Count national censuses and has declined subsequently (BTO *et al.,* 2025).

5.5.3.226 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.227 The populations of razorbill at projects considered in-combination have been estimated incorporating availability bias factors from Thaxter (2010). Dunn *et al.* (2024) presents updated monthly availability bias factors for razorbill for July to January. The correction factors provided in Dunn *et al.* (2024) are lower than those applied to calculate the population estimates used for projects considered in-combination in all months except January. It is therefore considered that these populations likely represent an over-estimate of the number of razorbill present at each project between July and December.

5.5.3.228 For the Berwick Bank project, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result this project has been required to submit a derogation case which includes compensation measures. The proposed

compensatory measures will compensate for the residual effects from this project that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with this project should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.229 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the razorbill population at the SPA. The PVA modelling predicts that the population growth rate will be negative corresponding with the current trend seen at the SPA where the population is declining and, as a result of the predicted in-combination impact, may decline below the designated population during the lifetime of Morven South.

5.5.3.230 Whilst the in-combination total is considered to be an over-estimate due to various factors discussed in paragraph 5.5.3.6, such overestimation is unlikely to be of a magnitude that would reduce the predicted in-combination total to a level at which impacts that undermine the conservation objectives for the Forth Islands SPA can be ruled out as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.231 Therefore due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for an AEOI on the razorbill population at the St Abb's Head to Fast Castle SPA as a result of in-combination displacement impacts.

Table 5.113: Mean-peak population estimates for razorbill at the St Abb's Head to Fast Castle Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Tier 1 (Scenario 4)										
Aberdeen European Offshore Wind Deployment Centre				0.00	0.00	0.00		0	0	0
Aspen	0.00			0.00	0.00	0.00		0	0	0
Beatrice				0.00	0.00	0.00		0	7	0
Berwick Bank	0.23	0.57	0.93	0.00	0.00	0.00	496	36	5	31
Blyth Demonstration Project (Phase 1)				0.00	0.00	0.00		0	0	0
Buchan				0.00	0.00	0.00		0	0	1
Caledonia North	0.00			0.00	0.00	0.00		5	0	1
Caledonia South	0.00			0.00	0.00	0.00		3	1	1
Cenos	0.00			0.00	0.00	0.00				
Dogger Bank Creyke Beck A				0.00	0.00	0.00		13	7	25
Dogger Bank Creyke Beck B				0.00	0.00	0.00		16	9	31
Dogger Bank South				0.00	0.00	0.00		26	19	26

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Dogger Bank Teesside A				0.00	0.00	0.00		3	4	11
Sofia (Dogger Bank Teesside B)				0.00	0.00	0.00		6	6	17
Dudgeon				0.00	0.00	0.00		0	2	2
Dudgeon Extension				0.00	0.00	0.00		4	3	1
East Anglia One				0.00	0.00	0.00		0	1	3
East Anglia One North				0.00	0.00	0.00		0	0	1
East Anglia Three				0.00	0.00	0.00		5	5	6
East Anglia Two				0.00	0.00	0.00		0	0	1
Five Estuaries				0.00	0.00	0.00		1	3	3
Galloper				0.00	0.00	0.00		0	0	3
Green Volt	0.00			0.00	0.00	0.00		0	0	0
Hornsea Project One				0.00	0.00	0.00		36	7	9
Hornsea Project Two				0.00	0.00	0.00		17	2	7
Hornsea Three				0.00	0.00	0.00		8	12	5
Hornsea Four				0.00	0.00	0.00		18	2	2
Humber Gateway				0.00	0.00	0.00		1	0	0
Inch Cape	0.07	0.57	0.93	0.00	0.00	0.00	167	31	2	3

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Kincardine	0.00	0.57	0.93	0.00	0.00	0.00	0	0	0	0
Lincs				0.00	0.00	0.00		1	0	0
Moray East				0.00	0.00	0.00		0	5	0
Moray West				0.00	0.00	0.00		15	1	15
Morven North	0.05	0.57	0.93	0.00	0.00	0.00	9	27	2	0
Morven South	0.09	0.57	0.93	0.00	0.00	0.00	3	12	1	0
Muir Mhor				0.00	0.00	0.00		6	0	0
Neart na Gaoithe	0.14	0.57	0.93	0.00	0.00	0.00	91	0	10	0
Norfolk Boreas				0.00	0.00	0.00		1	4	1
Norfolk Vanguard				0.00	0.00	0.00		4	2	4
North Falls				0.00	0.00	0.00		1	6	7
Ossian	0.07	0.57	0.93	0.00	0.00	0.00	21	11	0	1
Outer Dowsing				0.00	0.00	0.00		9	6	21
Race Bank				0.00	0.00	0.00		1	0	0
Rampion				0.00	0.00	0.00		0	1	2
Rampion 2				0.00	0.00	0.00		0	4	26
Salamander				0.00	0.00	0.00		0	2	0
Seagreen Bravo	0.05	0.57	0.93	0.00	0.00	0.00	98	5	1	3
Seagreen Alpha	0.05	0.57	0.93	0.00	0.00	0.00	149	6	3	4
Sheringham Shoal Extension				0.00	0.00	0.00		1	2	1

Project	Seasonal apportioning values						Apportioned population estimates			
	Breeding			Post-breeding	Non-breeding	Pre-breeding	Breeding	Post-breeding	Non-breeding	Pre-breeding
	Colony	Immature	Sabbatical							
Teesside				0.00	0.00	0.00		0	0	0
Thanet				0.00	0.00	0.00		0	0	0
Triton Knoll				0.00	0.00	0.00		3	7	2
Total population estimates (all projects including Morven North and Morven South)							1,033	335	157	279
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					19	2	1	2
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					31	6	3	5
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					5	2	1	1
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					23			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					45			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					9			
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)					0.530			
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)					1.024			
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)					0.206			

Table 5.114: Summary of population viability analysis results for in-combination displacement impacts on the razorbill feature of the St Abb's Head to Fast Castle Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	1,187	0.976	-57.05	-	-	-
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	1.1	0.026	1,181	0.976	-57.63	1.000	0.990	49.6
In-combination (Scenario 4)								
Baseline	-	-	1,188	0.976	-57.14	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	23.2	0.530	956	0.970	-65.50	0.994	0.802	31.9
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	44.9	1.024	778	0.964	-71.96	0.988	0.654	18.6
Applicant	9.0	0.206	1,094	0.974	-60.62	0.998	0.919	43.2

Puffin

5.5.3.232 Mean-peak population estimates for puffin apportioned to each of the SPAs identified in paragraph 5.5.3.1 are presented on a seasonal basis in the following SPA-specific sections. Impacts predicted for each SPA using the displacement and mortality rates advocated by NatureScot and the Applicant are also provided. The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance

5.5.3.233 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Coquet Island Special Protection Area

5.5.3.234 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.115 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.235 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Coquet Island SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.115: Predicted annual mortality of puffin at the Coquet Island Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Non-breeding	Annual
NatureScot's approach			
Morven South	0.1 to 0.2	0.1 to 0.4	0.3 to 0.6
Morven North	0.7 to 1.2	0.4 to 1.3	1.2 to 2.5
Total annual mortality (birds/annum)			1.4 to 3.2
Change in baseline mortality (percentage point change)			0.003 to 0.006
Applicant's approach			
Morven South	0.0	0.1	0.2
Morven North	0.2	0.4	0.6
Total annual mortality (birds/annum)			0.7
Change in baseline mortality (percentage point change)			0.001

5.5.3.236 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of puffin from the Coquet Island SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.237 Table 5.116 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.238 The predicted in-combination impact on puffin at the Coquet Island SPA is presented in Table 5.116 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the puffin population at the Coquet Island SPA is 30 to 70 birds/annum when applying NatureScot's approach and 16 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.239 PVA modelling for the puffin population at the Coquet Island SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.976 to 0.945 (i.e. the population after 35 years would be 2.4% to 5.5% smaller than the CPS with a 50th percentile value of 45.7 to 48.2 (Table 5.117)). In terms of the population size, this means that the median of the impacted population fell within the 46th or 48th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.998 to 0.999 which translates to a growth rate 0.1 to 0.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.240 When modelling the annual impact associated with the Applicant's approach for puffin, the comparable metrics are a median CGR of 1.000 and a median CPS of 0.986 (i.e. the population growth rate would be 0.0% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 1.4% smaller than the counterfactual population size). The 50th percentile value is 49.1, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.241 The current population at the SPA is above the population at designation (Table 5.8). The population of puffin at the Coquet Island SPA increased between the Seabird 2000 and Seabirds Count national censuses and has increased subsequently (BTO *et al.,* 2025).

5.5.3.242 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.243 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the SPA from being maintained, noting that the population of puffin at the SPA is higher than the designated population.

5.5.3.244 When the factors discussed in paragraphs 5.5.3.6 are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of puffin at the SPA would be maintained.

5.5.3.245 Impacts on puffin that undermine the conservation objectives of the at the Coquet Island SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.246 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Coquet Island SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.116: Mean-peak population estimates for puffin at the Coquet Island Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Tier 1 (Scenario 4)						
Aberdeen	0.09	0.49	0.93	0.05	3	3
Aspen	0.00			0.05		6
Beatrice				0.05		122
Berwick Bank	0.11	0.49	0.93	0.05	220	473
Blyth Demo	0.75	0.49	0.93	0.05	70	2
Buchan				0.05		28
Caledonia North	0.00			0.05		39
Caledonia South	0.00			0.05		41
Cenos	0.16			0.05		4
Dogger Bank A	0.00	0.49	0.93	0.05	0	23
Dogger Bank B	0.00	0.49	0.93	0.05	0	64
Dogger Bank South	0.35	0.49	0.93	0.05	23	20
Dogger Bank C				0.05		29
Sofia	0.00	0.49	0.93	0.05	0	31
Dudgeon				0.05		2
Dudgeon Extension				0.05		2
East Anglia One				0.05		2
East Anglia Three				0.05		16
Green Volt	0.00			0.05		2

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Hornsea Project One				0.05		82
Hornsea Project Two	0.00	0.49	0.93	0.05	0	109
Hornsea Project Three				0.05		7
Hornsea Four	0.00	0.49	0.93	0.05	0	24
Humber Gateway	0.42	0.49	0.93	0.05	0	2
Inch Cape	0.00	0.49	0.93	0.05	0	99
Kincardine	0.00	0.49	0.93	0.05	0	0
Lincs				0.05		0
Moray East				0.05		38
Moray West				0.05		211
Morven North	0.14	0.49	0.93	0.05	40	74
Morven South	0.16	0.49	0.93	0.05	8	23
Muir Mhor	0.15	0.49	0.93	0.05	125	96
Neart na Gaoithe	0.00	0.49	0.93	0.05	0	195
Norfolk Vanguard				0.05		6
Ossian	0.17	0.49	0.93	0.05	150	63
Outer Dowsing	0.78	0.49	0.93	0.05	238	22
Pentland				0.05		0
Race Bank				0.05		1
Rampion				0.05		0
Salamander	0.10	0.49	0.93	0.05	17	99

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
SeaGreen Bravo	0.00	0.49	0.93	0.05	0	206
SeaGreen Alpha	0.00	0.49	0.93	0.05	0	81
Sheringham Shoal Extension				0.05		1
Teesside	0.45	0.49	0.93	0.05	11	3
Triton Knoll	1.00	0.49	0.93	0.05	4	3
Total population estimates (all projects including Morven North and Morven South)					907	2,352
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			16	14
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			27	42
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			5	12
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			30	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			70	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			16	
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			0.061	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			0.139	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			0.033	

Table 5.117: Summary of population viability analysis results for in-combination displacement impacts on the puffin feature of the Coquet Island Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	11,188	0.972	-62.80	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	30.4	0.061	10,883	0.972	-63.60	0.999	0.976	48.2
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	69.6	0.139	10,523	0.971	-64.74	0.998	0.945	45.7
Applicant	16.3	0.031	11,027	0.972	-63.23	1.000	0.986	49.1

Farne Islands Special Protection Area

5.5.3.247 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.118 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.248 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Farne Islands SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.118: Predicted annual mortality of puffin at the Farne Islands Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Non-breeding	Annual
NatureScot's approach			
Morven South	0.4 to 0.6	0.4 to 1.3	0.8 to 2.0
Morven North	1.9 to 3.1	1.4 to 4.3	3.3 to 7.4
Total annual mortality (birds/annum)			4.1 to 9.4
Change in baseline mortality (percentage point change)			0.005 to 0.011
Applicant's approach			
Morven South	0.1	0.4	0.5
Morven North	0.5	1.2	1.7
Total annual mortality (birds/annum)			2.2
Change in baseline mortality (percentage point change)			0.003

5.5.3.249 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of puffin from the Farne Islands SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.250 Table 5.119 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.251 The predicted in-combination impact on puffin at the Farne Islands SPA is presented in Table 5.119 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the puffin population at the Farne Islands SPA is 71 to 179 birds/annum when applying NatureScot's approach and 45 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.252 PVA modelling for the puffin population at the Farne Islands SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.919 to 0.967 (i.e. the population after 35 years, would be 3.3% to 8.1% smaller than

the CPS with a 50th percentile value of 44.2 to 47.9 (Table 5.120)). In terms of the population size, this means that the median of the impacted population fell within the 44th or 48th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.998 to 0.999 which translates to a growth rate 0.1 to 0.2% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.253 When modelling the annual impact associated with the Applicant's approach for puffin, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.979 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 2.1% smaller than the counterfactual population size). The 50th percentile value is 48.7, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.254 The current population at the SPA is above the population at designation (Table 5.8). The population of puffin at the Farne Islands SPA declined between the Seabird 2000 and Seabirds Count national censuses but has remained stable subsequently (BTO *et al.,* 2025; National Trust, 2024).

5.5.3.255 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.256 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Dogger Bank South, Five Estuaries, North Falls, Outer Dowsing and Rampion 2. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.257 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the SPA from being maintained, noting that the population of puffin at the SPA is higher than the designated population.

5.5.3.258 When the factors discussed in paragraphs 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of puffin at the SPA would be maintained.

5.5.3.259 Impacts on puffin that undermine the conservation objectives of the at the Farne Islands SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.260 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Farne Islands SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.119: Mean-peak population estimates for puffin at the Farne Islands Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Tier 1 (Scenario 4)						
Aberdeen	0.22	0.49	0.93	0.17	6	10
Aspen	0.31	0.49	0.93	0.17	49	19
Beatrice				0.17		394
Berwick Bank	0.38	0.49	0.93	0.17	786	1532
Blyth Demo	0.22	0.49	0.93	0.17	20	7
Buchan				0.17		90
Caledonia North	0.00			0.17		127
Caledonia South	0.00			0.17		132
Cenos	0.42	0.49	0.93	0.17	42	12
Dogger Bank A	0.00	0.49	0.93	0.17	0	73
Dogger Bank B	0.00	0.49	0.93	0.17	0	207
Dogger Bank South	0.52	0.49	0.93	0.17	35	64
Dogger Bank C				0.17		95
Sofia	0.00	0.49	0.93	0.17	0	100
Dudgeon				0.17		7
Dudgeon Extension				0.17		8
East Anglia One				0.17		6
East Anglia Three				0.17		53
Green Volt	0.00	0.49	0.93	0.17	0	7

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Hornsea Project One				0.17		264
Hornsea Project Two				0.17		351
Hornsea Project Three				0.17		22
Hornsea Four	0.00	0.49	0.93	0.17	0	76
Humber Gateway	0.58	0.49	0.93	0.17	0	7
Inch Cape	0.00	0.49	0.93	0.17	0	321
Kincardine	0.00	0.49	0.93	0.17	0	0
Lincs				0.17		1
Moray East				0.17		124
Moray West				0.17		683
Morven North	0.37	0.49	0.93	0.17	104	239
Morven South	0.43	0.49	0.93	0.17	21	75
Muir Mhor	0.34	0.49	0.93	0.17	281	312
Neart na Gaoithe	0.00	0.49	0.93	0.17	0	630
Norfolk Vanguard				0.17		19
Ossian	0.41	0.49	0.93	0.17	364	203
Outer Dowsing				0.17		71
Pentland				0.17		1
Race Bank				0.17		2
Rampion				0.17		0
Salamander	0.23	0.49	0.93	0.17	38	319

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
SeaGreen Bravo	0.00	0.49	0.93	0.17	0	666
SeaGreen Alpha	0.00	0.49	0.93	0.17	0	263
Sheringham Shoal Extension				0.17		2
Teesside	0.40	0.49	0.93	0.17	10	10
Triton Knoll				0.17	6	10
Total population estimates (all projects including Morven North and Morven South)					1,392	7,613
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			25	46
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			42	137
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			7	38
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			71	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			179	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			45	
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			0.081	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			0.204	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			0.051	

Table 5.120: Summary of population viability analysis results for in-combination displacement impacts on the puffin feature of the Farne Islands Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	19,559	0.972	-62.71	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	70.7	0.081	18,941	0.971	-63.94	0.999	0.967	47.9
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	178.8	0.204	17,956	0.970	-65.71	0.998	0.919	44.2
Applicant	45.0	0.052	19,147	0.972	-63.48	0.999	0.979	48.7

Forth Islands Special Protection Area

5.5.3.261 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.121 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.262 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Forth Islands SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.121: Predicted annual mortality of puffin at the Forth Islands Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Non-breeding	Annual
NatureScot's approach			
Morven South	0.3 to 0.6	0.7 to 2.1	1.0 to 2.7
Morven North	2.4 to 4.0	2.2 to 6.7	4.6 to 10.6
Total annual mortality (birds/annum)			5.6 to 13.3
Change in baseline mortality (percentage point change)			0.007 to 0.015
Applicant's approach			
Morven South	0.1	0.6	0.7
Morven North	0.7	1.9	2.5
Total annual mortality (birds/annum)			3.2
Change in baseline mortality (percentage point change)			0.004

5.5.3.263 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of puffin from the Forth Islands SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.264 Table 5.122 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.265 The predicted in-combination impact on puffin at the Forth Islands SPA is presented in Table 5.122 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the puffin population at the Forth Islands SPA is 236 to 488 birds/annum when applying NatureScot's approach and 105 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.266 PVA modelling for the puffin population at the Forth Islands SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.792 to 0.893 (i.e. the population after 35 years, would be 10.7% to 20.8% smaller

than the CPS with a 50th percentile value of 33.9 to 42.1 (Table 5.123)). In terms of the population size, this means that the median of the impacted population fell within the 34th or 42nd percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.993 to 0.997 which translates to a growth rate 0.3 to 0.7% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.267 When modelling the annual impact associated with the Applicant's approach for puffin, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.951 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 4.9% smaller than the counterfactual population size). The 50th percentile value is 46.5, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.268 The current population at the SPA is above the population at designation (Table 5.8). The population of puffin at the Forth Islands SPA declined between the Seabird 2000 and Seabirds Count national censuses but has increased subsequently (BTO *et al.,* 2025).

5.5.3.269 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.270 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Cenos, Green Volt, Muir Mhor and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.271 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the SPA from being maintained, noting that the population of puffin at the SPA is higher than the designated population.

5.5.3.272 When the factors discussed in paragraphs 5.5.3.6 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered that the population of puffin at the SPA would be maintained.

5.5.3.273 Impacts on puffin that undermine the conservation objectives of the at the Forth Islands SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.274 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Forth Islands SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.122: Mean-peak population estimates for puffin at the Forth Islands Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Tier 1 (Scenario 4)						
Aberdeen	0.52	0.49	0.93	0.27	15	16
Aspen	0.53	0.49	0.93	0.27	86	30
Beatrice	0.00	0.49	0.93	0.27	0	614
Berwick Bank	0.50	0.49	0.93	0.27	1028	2386
Blyth Demo	0.04	0.49	0.93	0.27	4	11
Buchan	0.24	0.49	0.93	0.27	103	141
Caledonia North	0.36	0.49	0.93	0.27	213	198
Caledonia South	0.45	0.49	0.93	0.27	246	206
Cenos	0.42	0.49	0.93	0.27	42	18
Dogger Bank A				0.27		114
Dogger Bank B				0.27		322
Dogger Bank South				0.27		100
Dogger Bank C				0.27		148
Sofia				0.27		156
Dudgeon				0.27		11
Dudgeon Extension				0.27		12
East Anglia One				0.27		9
East Anglia Three				0.27		82
Green Volt	0.08	0.49	0.93	0.27	9	11

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Hornsea Project One				0.27		412
Hornsea Project Two				0.27		547
Hornsea Project Three				0.27		34
Hornsea Four				0.27		119
Humber Gateway				0.27		10
Inch Cape	0.85	0.49	0.93	0.27	2189	500
Kincardine	1.00	0.49	0.93	0.27	41	0
Lincs				0.27		1
Moray East	0.00	0.49	0.93	0.27	0	192
Moray West	0.00	0.49	0.93	0.27	0	1064
Morven North	0.46	0.49	0.93	0.27	132	372
Morven South	0.39	0.49	0.93	0.27	19	116
Muir Mhor	0.41	0.49	0.93	0.27	341	486
Neart na Gaoithe	0.93	0.49	0.93	0.27	2627	981
Norfolk Vanguard				0.27		30
Ossian	0.39	0.49	0.93	0.27	346	316
Outer Dowsing				0.27		111
Pentland				0.27		2
Race Bank				0.27		4
Rampion				0.27		0
Salamander	0.36	0.49	0.93	0.27	58	497

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
SeaGreen Bravo	0.71	0.49	0.93	0.27	1154	1036
SeaGreen Alpha	0.71	0.49	0.93	0.27	829	409
Sheringham Shoal Extension				0.27		3
Teesside	0.15	0.49	0.93	0.27	4	15
Triton Knoll				0.27		15
Total population estimates (all projects including Morven North and Morven South)					9,136	11,857
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			164	71
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			274	213
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			46	59
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			236	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			488	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			105	
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			0.274	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			0.568	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			0.122	

Table 5.123: Summary of population viability analysis results for in-combination displacement impacts on the puffin feature of the Forth Islands Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	19,762	0.972	-62.89	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	235.6	0.274	17,640	0.970	-66.84	0.997	0.893	42.1
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	487.5	0.568	15,668	0.966	-70.63	0.993	0.792	33.9
Applicant	105.0	0.122	18,839	0.971	-64.68	0.999	0.951	46.5

Foula Special Protection Area

5.5.3.275 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.124 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.276 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Foula SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.124: Predicted annual mortality of puffin at the Foula Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Non-breeding	Annual
NatureScot's approach			
Morven South	n/a	0.1 to 0.2	0.1 to 0.2
Morven North	n/a	0.2 to 0.7	0.2 to 0.7
Total annual mortality (birds/annum)			0.3 to 1.0
Change in baseline mortality (percentage point change)			0.004 to 0.011
Applicant's approach			
Morven South	n/a	0.1	0.1
Morven North	n/a	0.2	0.2
Total annual mortality (birds/annum)			0.3
Change in baseline mortality (percentage point change)			0.003

5.5.3.277 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of puffin from the Foula SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.278 Table 5.125 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.279 The predicted in-combination impact on puffin at the Foula SPA is presented in Table 5.125 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the puffin population at the Foula SPA is 9 to 26 birds/annum when applying NatureScot's approach and 7 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.280 PVA modelling for the puffin population at the Foula SPA when applying the annual impact calculated using NatureScot's displacement and mortality rates indicates a median CPS of 0.884 to 0.959 (i.e. the population after 35 years, would be 4.1% to 11.6% smaller than the

CPS with a 50th percentile value of 40.6 to 46.7 (Table 5.126)). In terms of the population size, this means that the median of the impacted population fell within the 40th or 47th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.997 to 0.999 which translates to a growth rate 0.1 to 0.3% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.281 When modelling the annual impact associated with the Applicant's approach for puffin, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.966 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 3.4% smaller than the counterfactual population size). The 50th percentile value is 47.3, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.282 The current population at the SPA is below the population at designation (Table 5.8). The population of puffin at the Foula SPA declined between the Seabird 2000 and Seabirds Count.

5.5.3.283 When considered against the current status of the puffin population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.284 When the factors discussed in paragraph 5.5.3.6 are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the puffin population at the SPA would not be hindered.

5.5.3.285 Impacts on puffin that undermine the conservation objectives of the at the Foula SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.286 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Foula SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.125: Mean-peak population estimates for puffin at the Foula Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Tier 1 (Scenario 4)						
Aberdeen				0.03		2
Aspen	0.00			0.03		3
Beatrice	0.00	0.49	0.93	0.03	0	67
Berwick Bank				0.03		259
Blyth Demo				0.03		1
Buchan	0.02	0.49	0.93	0.03	10	15
Caledonia North	0.02	0.49	0.93	0.03	14	22
Caledonia South	0.02	0.49	0.93	0.03	13	22
Cenos	0.00			0.03		2
Dogger Bank A				0.03		12
Dogger Bank B				0.03		35
Dogger Bank South				0.03		11
Dogger Bank C				0.03		16
Sofia				0.03		17
Dudgeon				0.03		1
Dudgeon Extension				0.03		1
East Anglia One				0.03		1
East Anglia Three				0.03		9
Green Volt	0.01	0.49	0.93	0.03	1	1

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Hornsea Project One				0.03		45
Hornsea Project Two				0.03		59
Hornsea Project Three				0.03		4
Hornsea Four				0.03		13
Humber Gateway				0.03		1
Inch Cape				0.03		54
Kincardine				0.03		0
Lincs				0.03		0
Moray East	0.00	0.49	0.93	0.03	0	21
Moray West	0.00	0.49	0.93	0.03	0	115
Morven North	0.00			0.03		40
Morven South	0.00			0.03		13
Muir Mhor				0.03		53
Neart na Gaoithe				0.03		106
Norfolk Vanguard				0.03		3
Ossian				0.03		34
Outer Dowsing				0.03		12
Pentland	0.00	0.49	0.93	0.03	3	0
Race Bank				0.03		0
Rampion				0.03		0
Salamander				0.03		54

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
SeaGreen Bravo				0.03		112
SeaGreen Alpha				0.03		44
Sheringham Shoal Extension				0.03		0
Teesside				0.03		2
Triton Knoll				0.03		2
West of Orkney	0.00	0.49	0.93	0.03	0	62
Total population estimates (all projects including Morven North and Morven South)					41	1,348
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			1	8
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			1	24
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			0	7
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			9	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			26	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			7	
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			0.104	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			0.301	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			0.082	

Table 5.126: Summary of population viability analysis results for in-combination displacement impacts on the puffin feature of the Foula Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	1,733	0.972	-62.77	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	8.8	0.104	1,659	0.971	-64.52	0.999	0.959	46.7
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	25.5	0.301	1,529	0.969	-67.12	0.997	0.884	40.6
Applicant	6.9	0.082	1,675	0.971	-64.21	0.999	0.966	47.3

Hermaness, Saxa Vord and Valla Field Special Protection Area

5.5.3.287 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.127 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.288 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Hermaness, Saxa Vord and Valla Field SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.127: Predicted annual mortality of puffin at the Hermaness, Saxa Vord and Valla Field Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Non-breeding	Annual
NatureScot's approach			
Morven South	n/a	0.1 to 0.2	0.1 to 0.2
Morven North	n/a	0.3 to 0.8	0.3 to 0.8
Total annual mortality (birds/annum)			0.3 to 1.0
Change in baseline mortality (percentage point change)			0.001 to 0.003
Applicant's approach			
Morven South	n/a	0.1	0.1
Morven North	n/a	0.2	0.2
Total annual mortality (birds/annum)			0.3
Change in baseline mortality (percentage point change)			0.001

5.5.3.289 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of puffin from the Hermaness, Saxa Vord and Valla Field SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.290 Table 5.125 presents the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.291 The predicted in-combination impact on puffin at the Hermaness, Saxa Vord and Valla Field SPA is presented in Table 5.125 when applying both NatureScot's advocated displacement and mortality rates and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the puffin population at the Hermaness, Saxa Vord and Valla Field SPA is 9 to 26 birds/annum when applying NatureScot's approach and 7 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.292 PVA modelling for the puffin population at the Hermaness, Saxa Vord and Valla Field SPA when applying the annual impact calculated using NatureScot's displacement and mortality

rates indicates a median CPS of 0.964 to 0.988 (i.e. the population after 35 years, would be 1.2% to 3.6% smaller than the CPS with a 50th percentile value of 47.8 to 49.4 (Table 5.129)). In terms of the population size, this means that the median of the impacted population fell within the 48th or 50th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.999 to 1.000 which translates to a growth rate 0.0 to 0.1% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations.

5.5.3.293 When modelling the annual impact associated with the Applicant's approach for puffin, the comparable metrics are a median CGR of 1.000 and a median CPS of 0.990 (i.e. the population growth rate would be 0.0% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 1.0% smaller than the counterfactual population size). The 50th percentile value is 49.1, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.294 The current population at the SPA is below the population at designation (Table 5.8). The population of puffin at the Hermaness, Saxa Vord and Valla Field SPA declined between the Seabird 2000 and Seabirds Count.

5.5.3.295 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.296 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the SPA from recovering.

5.5.3.297 When the factors discussed in paragraph 5.5.3.6 are taken into account this would further improve the PVA metrics predicted above to a level at which it is considered the recovery of the puffin population at the SPA would also not be hindered.

5.5.3.298 Impacts on puffin that undermine the conservation objectives of the at the Hermaness, Saxa Vord and Valla Field SPA will not occur as a result of in-combination displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.3.299 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Hermaness, Saxa Vord and Valla Field SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.128: Mean-peak population estimates for puffin at the Hermaness, Saxa Vord and Valla Field Special Protection Area for projects considered in-combination in relation to displacement

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Tier 1 (Scenario 4)						
Aberdeen				0.03		2
Aspen	0.00			0.03		3
Beatrice				0.03		70
Berwick Bank				0.03		272
Blyth Demo				0.03		1
Buchan	0.00	0.49	0.93	0.03	0	16
Caledonia North	0.00			0.03		23
Caledonia South	0.00			0.03		24
Cenos	0.00			0.03		2
Dogger Bank A				0.03		13
Dogger Bank B				0.03		37
Dogger Bank South				0.03		11
Dogger Bank C				0.03		17
Sofia				0.03		18
Dudgeon				0.03		1
Dudgeon Extension				0.03		1
East Anglia One				0.03		1
East Anglia Three				0.03		9

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Green Volt	0.00			0.03		1
Hornsea Project One				0.03		47
Hornsea Project Two				0.03		62
Hornsea Project Three				0.03		4
Hornsea Four				0.03		14
Humber Gateway				0.03		1
Inch Cape				0.03		57
Kincardine				0.03		0
Lincs				0.03		0
Moray East				0.03		22
Moray West				0.03		121
Morven North	0.00			0.03		42
Morven South	0.00			0.03		13
Muir Mhor				0.03		55
Neart na Gaoithe				0.03		112
Norfolk Vanguard				0.03		3
Ossian				0.03		36
Outer Dowsing				0.03		13
Pentland				0.03		0
Race Bank				0.03		0
Rampion				0.03		0

Project	Seasonal apportioning values				Apportioned population estimates	
	Breeding			Non-breeding	Breeding	Non-breeding
	Colony	Immature	Sabbatical			
Salamander				0.03		57
SeaGreen Bravo				0.03		118
SeaGreen Alpha				0.03		47
Sheringham Shoal Extension				0.03		0
Teesside				0.03		2
Triton Knoll				0.03		2
West of Orkney	0.00	0.49	0.93	0.03	0	65
Total population estimates (all projects including Morven North and Morven South)					0	1,418
Displacement mortality	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			0	9
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			0	26
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			0	7
Annual mortality (birds/annum)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			9	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			26	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			7	
Change in baseline mortality (percentage point change)	NatureScot's approach	(60% displacement rate; 3% breeding season mortality rate; 1% non-breeding seasons mortality rate)			0.030	
	NatureScot's approach	(60% displacement rate; 5% breeding season mortality rate; 3% non-breeding seasons mortality rate)			0.089	
	Applicant's approach	(50% displacement rate; 1% mortality rate in all seasons)			0.025	

Table 5.129: Summary of population viability analysis results for in-combination displacement impacts on the puffin feature of the Hermaness, Saxa Vord and Valla Field Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	6,438	0.972	-62.77	-	-	-
NatureScot (3% breeding season mortality rate; 1% non-breeding season mortality rate)	8.5	0.030	6,359	0.972	-63.27	1.000	0.988	49.4
NatureScot (5% breeding season mortality rate; 3% non-breeding season mortality rate)	25.5	0.089	6,205	0.971	-64.14	0.999	0.964	47.8
Applicant	7.1	0.025	6,335	0.972	-63.16	1.000	0.990	49.1

Gannet

5.5.3.300 Mean-peak population estimates for gannet apportioned to each of the SPAs identified in paragraph 5.5.3.1 are presented on a seasonal basis in the following SPA-specific sections. Impacts predicted for each SPA using the displacement and mortality rates advocated by NatureScot and the Applicant are also provided. The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance

5.5.3.301 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Forth Islands Special Protection Area

5.5.3.302 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.130 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.303 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Forth Islands SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.130: Predicted annual mortality of gannet at the Forth Islands Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Pre-breeding	Annual
NatureScot's approach				
Morven South	1.1 to 3.3	0.2 to 0.5	0.1 to 0.3	1.4 to 4.1
Morven North	2.4 to 7.2	0.6 to 1.8	0.1 to 0.2	3.1 to 9.2
Total annual mortality (birds/annum)				4.4 to 13.2
Change in baseline mortality (percentage point change)				0.003 to 0.009
Applicant's approach				
Morven South	1.9	0.2	0.1	2.1
Morven North	4.2	0.6	0.1	4.8
Total annual mortality (birds/annum)				7.0
Change in baseline mortality (percentage point change)				0.005

5.5.3.304 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of gannet from the Forth Islands SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.305 Table 5.131 (NatureScot's apportioning approach) and Table 5.132 (Applicant's approach) present the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.306 The predicted in-combination impact on gannet at the Forth Islands SPA is presented in Table 5.131 (NatureScot's apportioning approach) and Table 5.132 (Applicant's approach). The total in-combination impact apportioned to the gannet population at the Forth Islands SPA is 118 to 355 birds/annum when applying NatureScot's approach and 152 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.307 The PVA model conducted for gannet when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.907 to 0.968; (i.e. the population after 35 years, would be 3.2 to 9.3% smaller than the CPS with a 50th percentile value of 35.5 to 44.9 (Table 5.133)). In terms of the population size, this means that the median of the impacted population fell within the 36th to 45th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.997 to 0.999 which translates to a growth rate 0.1 to 0.3% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.3.308 When modelling the annual impact associated with the Applicant's approach for gannet, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.959 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 4.1% smaller than the counterfactual population size). The 50th percentile value is 43.6, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.309 The current population at the SPA is above the population at designation (Table 5.8). The population of gannet at the Forth Islands SPA increased between the Seabird 2000 and Seabirds Count national censuses but has decreased since Seabirds Count, primarily due to HPAI (BTO *et al*, 2025; Burton *et al*, 2025).

5.5.3.310 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.311 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhor, Ossian, Salamander and West of Orkney. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.312 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI.

5.5.3.313 When the factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account it is considered that impacts on gannet that undermine the conservation objectives of the Forth Islands SPA will therefore not occur as a result of in-combination displacement impacts.

5.5.3.314 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Forth Islands SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.131: Mean-peak population estimates for gannet at the Forth Islands Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.63	0.55	0.90	0.24	0.31	126	44	63
Beatrice	0.38	0.55	0.90	0.24	0.31	55	48	61
Berwick Bank	0.97	0.55	0.90	0.24	0.31	2284	365	84
Blyth Demo	0.72	0.55	0.90	0.24	0.31	12	15	1
Buchan	0.35	0.55	0.90	0.24	0.31	41	45	17
Caledonia North	0.39	0.55	0.90	0.24	0.31	47	47	6
Caledonia South	0.38	0.55	0.90	0.24	0.31	133	45	5
Cenos	0.80	0.55	0.90	0.24	0.31	86	32	41
Dogger Bank A	0.59	0.55	0.90	0.24	0.31	152	223	60
Dogger Bank B	0.59	0.55	0.90	0.24	0.31	187	275	73
Dogger Bank South	0.00	0.55	0.90	0.24	0.31	0	383	42
Dogger Bank C	0.66	0.55	0.90	0.24	0.31	199	92	46
Sofia	0.66	0.55	0.90	0.24	0.31	233	123	46
Dudgeon	0.00	0.55	0.90	0.24	0.31	0	11	18
Dudgeon Extension	0.00	0.55	0.90	0.24	0.31	0	83	15
East Anglia One	0.00	0.55	0.90	0.24	0.31		650	29
East Anglia One North	0.00	0.55	0.90	0.24	0.31		114	14

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
East Anglia Three	0.00	0.55	0.90	0.24	0.31		218	115
East Anglia Two	0.00	0.55	0.90	0.24	0.31		217	60
Five Estuaries	0.00	0.55	0.90	0.24	0.31		156	21
Galloper	0.00	0.55	0.90	0.24	0.31		113	68
Green Volt	0.56	0.55	0.90	0.24	0.31	55	6	32
Hornsea Project One	0.00	0.55	0.90	0.24	0.31	0	128	63
Hornsea Project Two	0.00	0.55	0.90	0.24	0.31	0	188	53
Hornsea Project Three	0.00	0.55	0.90	0.24	0.31	0	239	127
Hornsea Four	0.00	0.55	0.90	0.24	0.31	0	192	125
Humber Gateway	0.00	0.55	0.90	0.24	0.31	0	0	0
Inch Cape	1.00	0.55	0.90	0.24	0.31	613	78	26
Kincardine	0.38	0.55	0.90	0.24	0.31	23	0	0
Lincs	0.00	0.55	0.90	0.24	0.31	0	3	0
Moray East	0.00	0.55	0.90	0.24	0.31	0	4	6
Moray West	0.00	0.55	0.90	0.24	0.31	0	73	31
Morven North	0.87	0.55	0.90	0.24	0.31	343	85	12
Morven South	0.87	0.55	0.90	0.24	0.31	158	22	14
Muir Mhor	0.62	0.55	0.90	0.24	0.31	184	144	23
Neart na Gaoithe	1.00	0.55	0.90	0.24	0.31	987	147	124

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Norfolk Boreas	0.00	0.55	0.90	0.24	0.31	0	419	165
Norfolk Vanguard	0.00	0.55	0.90	0.24	0.31	0	599	137
North Falls	0.00	0.55	0.90	0.24	0.31		70	91
Ossian	0.80	0.55	0.90	0.24	0.31	552	188	13
Outer Dowsing	0.00	0.55	0.90	0.24	0.31	0	121	22
Pentland				0.24	0.31		6	3
Race Bank	0.00	0.55	0.90	0.24	0.31	0	14	6
Rampion				0.24	0.31		79	86
Rampion 2				0.24	0.31		25	38
Salamander	0.46	0.55	0.90	0.24	0.31	101	45	58
SeaGreen Bravo	0.99	0.55	0.90	0.24	0.31	476	86	46
SeaGreen Alpha	0.99	0.55	0.90	0.24	0.31	1134	73	31
Sheringham Shoal Extension	0.00	0.55	0.90	0.24	0.31	0	72	3
Teesside	0.36	0.55	0.90	0.24	0.31	8	0	0
Thanet				0.24	0.31		3	0
Triton Knoll	0.00	0.55	0.90	0.24	0.31	0	72	16
Total population estimates (all projects including Morven North and Morven South)						8,190	6,479	2,236
Displacement mortality	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				57	45	16
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				172	136	47

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Annual mortality (birds/annum)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				118		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				355		
Change in baseline mortality (percentage point change)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.079		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				0.236		

Table 5.132: Mean-peak population estimates for gannet at the Forth Islands Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.63	0.55	0.90	0.24	0.31	126	44	63
Beatrice	0.38	0.55	0.90	0.24	0.31	55	48	61
Berwick Bank	0.97	0.99	0.90	0.24	0.31	4097	365	84
Blyth Demo	0.72	0.55	0.90	0.24	0.31	12	15	1
Buchan	0.35	0.91	0.90	0.24	0.31	68	45	17
Caledonia North	0.39	0.55	0.90	0.24	0.31	47	47	6
Caledonia South	0.38	0.55	0.90	0.24	0.31	133	45	5

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Cenos	0.80	0.98	0.90	0.24	0.31	152	32	41
Dogger Bank A	0.59	0.55	0.90	0.24	0.31	152	223	60
Dogger Bank B	0.59	0.55	0.90	0.24	0.31	187	275	73
Dogger Bank South	0.00	0.55	0.90	0.24	0.31	0	383	42
Dogger Bank C	0.66	0.55	0.90	0.24	0.31	199	92	46
Sofia	0.66	0.55	0.90	0.24	0.31	233	123	46
Dudgeon	0.00	0.55	0.90	0.24	0.31	0	11	18
Dudgeon Extension	0.00	0.55	0.90	0.24	0.31	0	83	15
East Anglia One	0.00	0.55	0.90	0.24	0.31		650	29
East Anglia One North	0.00	0.55	0.90	0.24	0.31		114	14
East Anglia Three	0.00	0.55	0.90	0.24	0.31		218	115
East Anglia Two	0.00	0.55	0.90	0.24	0.31		217	60
Five Estuaries	0.00	0.55	0.90	0.24	0.31		156	21
Galloper	0.00	0.55	0.90	0.24	0.31		113	68
Green Volt	0.56	0.55	0.90	0.24	0.31	55	6	32
Hornsea Project One	0.00	0.62	0.90	0.24	0.31	0	128	63
Hornsea Project Two	0.00	0.72	0.90	0.24	0.31	0	188	53
Hornsea Project Three	0.00	0.73	0.90	0.24	0.31	0	239	127
Hornsea Four	0.00	0.55	0.90	0.24	0.31	0	192	125

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Humber Gateway	0.00	0.55	0.90	0.24	0.31	0	0	0
Inch Cape	1.00	0.55	0.90	0.24	0.31	613	78	26
Kincardine	0.38	0.79	0.90	0.24	0.31	33	0	0
Lincs	0.00	0.55	0.90	0.24	0.31	0	3	0
Moray East	0.00	0.55	0.90	0.24	0.31	0	4	6
Moray West	0.00	0.55	0.90	0.24	0.31	0	73	31
Morven North	0.87	0.96	0.90	0.24	0.31	596	85	12
Morven South	0.87	0.95	0.90	0.24	0.31	272	22	14
Muir Mhor	0.62	0.55	0.90	0.24	0.31	184	144	23
Neart na Gaoithe	1.00	0.98	0.90	0.24	0.31	1744	147	124
Norfolk Boreas	0.00	0.55	0.90	0.24	0.31	0	419	165
Norfolk Vanguard	0.00	0.55	0.90	0.24	0.31	0	599	137
North Falls	0.00	0.69	0.90	0.24	0.31		70	91
Ossian	0.80	0.98	0.90	0.24	0.31	980	188	13
Outer Dowsing	0.00	0.90	0.90	0.24	0.31	0	121	22
Pentland				0.24	0.31		6	3
Race Bank	0.00	0.55	0.90	0.24	0.31	0	14	6
Rampion				0.24	0.31		79	86
Rampion 2				0.24	0.31		25	38
Salamander	0.46	0.94	0.90	0.24	0.31	171	45	58
SeaGreen Bravo	0.99	0.97	0.90	0.24	0.31	839	86	46

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
SeaGreen Alpha	0.99	0.97	0.90	0.24	0.31	1999	73	31
Sheringham Shoal Extension	0.00	0.55	0.90	0.24	0.31	0	72	3
Teesside	0.36	0.55	0.90	0.24	0.31	8	0	0
Thanet				0.24	0.31		3	0
Triton Knoll	0.00	0.55	0.90	0.24	0.31	0	72	16
Total population estimates (all projects including Morven North and Morven South)						12,957	6,479	2,236
Displacement mortality	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				91	45	16
Annual mortality (birds/annum)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				152		
Change in baseline mortality (percentage point change)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.101		

Table 5.133: Summary of population viability analysis results for in-combination displacement impacts on the gannet feature of the Forth Islands Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	304,843	1.012	53.73	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	118.3	0.079	295,381	1.011	48.78	0.999	0.968	44.9
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	355.0	0.236	276,985	1.010	39.47	0.997	0.907	35.5
Applicant	151.7	0.101	292,536	1.011	47.56	0.999	0.959	43.6

Hermaness, Saxa Vord and Valla Field Special Protection Area

5.5.3.315 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.134 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.3.316 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Hermaness, Saxa Vord and Valla Field SPA in relation to displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.134: Predicted annual mortality of gannet at the Hermaness, Saxa Vord and Valla Field Special Protection Area resulting from displacement impacts associated with the Morven Programme (Scenario 3)

Project	Breeding	Post-breeding	Pre-breeding	Annual
NatureScot's approach				
Morven South	n/a	0.1 to 0.2	0.0 to 0.1	0.1 to 0.3
Morven North	n/a	0.2 to 0.6	0.0 to 0.1	0.2 to 0.7
Total annual mortality (birds/annum)				0.3 to 1.0
Change in baseline mortality (percentage point change)				0.001 to 0.002
Applicant's approach				
Morven South	n/a	0.1	0.0	0.1
Morven North	n/a	0.2	0.0	0.2
Total annual mortality (birds/annum)				0.3
Change in baseline mortality (percentage point change)				0.001

5.5.3.317 For the in-combination assessment (Scenario 4), based on the mean-maximum foraging range of gannet from the Hermaness, Saxa Vord and Valla Field SPA, there are a number of projects that require consideration in the breeding season. In the post-breeding and pre-breeding seasons all projects within the UK North Sea BDMPS as defined by Furness (2015) are included in the in-combination assessment.

5.5.3.318 Table 5.135 (NatureScot's apportioning approach) and Table 5.136 (Applicant's approach) present the seasonal population estimates for those projects considered in-combination. These values have been apportioned following the approach described in paragraphs 5.5.3.11 and 5.5.3.12.

5.5.3.319 The predicted in-combination impact on gannet at the Hermaness, Saxa Vord and Valla Field SPA is presented in Table 5.135 (NatureScot's apportioning approach) and Table 5.136 (Applicant's approach). The total in-combination impact apportioned to the gannet population at the Hermaness, Saxa Vord and Valla Field SPA is 24 to 71 birds/annum when applying NatureScot's approach and 24 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.3.320 The PVA model conducted for gannet when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.952 to 0.984; (i.e. the population

after 35 years, would be 1.6 to 4.8% smaller than the CPS with a 50th percentile value of 41.9 to 47.5 (Table 5.137)). In terms of the population size, this means that the median of the impacted population fell within the 42nd to 47th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.999 to 1.000 which translates to a growth rate 0.0 to 0.1% smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations.

5.5.3.321 When modelling the annual impact associated with the Applicant's approach for gannet, the comparable metrics are a median CGR of 1.000 and a median CPS of 0.983 (i.e. the population growth rate would be 0.0% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 1.7% smaller than the counterfactual population size). The 50th percentile value is 47.3, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.3.322 The current population at the SPA is above the population at designation (Table 5.8). The population of gannet at the Hermaness, Saxa Vord and Valla Field SPA increased between the Seabird 2000 and Seabirds Count national censuses but has decreased since Seabirds Count, presumably due to HPAI (Lane *et al*, 2024,BTO *et al*, 2025).

5.5.3.323 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.3.6.

5.5.3.324 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.3.325 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI.

5.5.3.326 When the factors discussed in paragraph 5.5.3.6 and the compensation required at other projects are taken into account it is considered that impacts on gannet that undermine the conservation objectives of the Hermaness, Saxa Vord and Valla Field SPA will therefore not occur as a result of in-combination displacement impacts.

5.5.3.327 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Hermaness, Saxa Vord and Valla Field SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.135: Mean-peak population estimates for gannet at the Hermaness, Saxa Vord and Valla Field Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.04	0.55	0.90	0.09	0.14	8	16	28
Beatrice	0.06	0.55	0.90	0.09	0.14	9	17	27
Berwick Bank	0.01	0.55	0.90	0.09	0.14	12	128	37
Blyth Demo				0.09	0.14		5	0
Buchan	0.07	0.55	0.90	0.09	0.14	8	16	7
Caledonia North	0.04	0.55	0.90	0.09	0.14	5	17	3
Caledonia South	0.03	0.55	0.90	0.09	0.14	11	16	2
Cenos	0.06	0.55	0.90	0.09	0.14	6	11	18
Dogger Bank A				0.09	0.14		78	26
Dogger Bank B				0.09	0.14		97	32
Dogger Bank South				0.09	0.14		134	18
Dogger Bank C				0.09	0.14		32	20
Sofia				0.09	0.14		43	20
Dudgeon				0.09	0.14		4	8
Dudgeon Extension				0.09	0.14		29	6
East Anglia One				0.09	0.14		228	13
East Anglia One North				0.09	0.14		40	6

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
East Anglia Three				0.09	0.14		76	51
East Anglia Two				0.09	0.14		76	26
Five Estuaries				0.09	0.14		55	9
Galloper				0.09	0.14		40	30
Green Volt	0.05	0.55	0.90	0.09	0.14	5	2	14
Hornsea Project One				0.09	0.14		45	28
Hornsea Project Two				0.09	0.14		66	23
Hornsea Project Three				0.09	0.14		84	56
Hornsea Four				0.09	0.14		67	55
Humber Gateway				0.09	0.14		0	0
Inch Cape	0.00	0.55	0.90	0.09	0.14	0	28	11
Kincardine	0.00	0.55	0.90	0.09	0.14	0	0	0
Lincs				0.09	0.14		1	0
Moray East	0.00	0.55	0.90	0.09	0.14	0	2	3
Moray West	0.00	0.55	0.90	0.09	0.14	0	25	13
Morven North	0.00	0.55	0.90	0.09	0.14	6	30	5
Morven South	0.00	0.55	0.90	0.09	0.14	3	8	6
Muir Mhor	0.05	0.55	0.90	0.09	0.14	15	51	10
Neart na Gaoithe	0.00	0.55	0.90	0.09	0.14	0	52	54

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Norfolk Boreas				0.09	0.14		147	72
Norfolk Vanguard				0.09	0.14		210	60
North Falls				0.09	0.14		25	40
Ossian	0.03	0.55	0.90	0.09	0.14	18	66	6
Outer Dowsing				0.09	0.14		42	9
Pentland		0.55	0.90	0.02	0.02	0	0	0
Race Bank				0.09	0.14		5	3
Rampion				0.09	0.14		28	38
Rampion 2				0.09	0.14		9	17
Salamander	0.04	0.55	0.90	0.09	0.14	10	16	25
SeaGreen Bravo	0.00	0.55	0.90	0.09	0.14	0	30	20
SeaGreen Alpha	0.00	0.55	0.90	0.09	0.14	0	26	14
Sheringham Shoal Extension				0.09	0.14		25	2
Teesside				0.09	0.14		0	0
Thanet				0.09	0.14		1	0
Triton Knoll				0.09	0.14		25	7
West of Orkney	0.00	0.55	0.90	0.02	0.02	0	24	3
Total population estimates (all projects including Morven North and Morven South)						107	2,298	984
Displacement mortality	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				1	16	7

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				2	48	21
Annual mortality (birds/annum)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				24		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				71		
Change in baseline mortality (percentage point change)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.040		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				0.121		

Table 5.136: Mean-peak population estimates for gannet at the Hermaness, Saxa Vord and Valla Field Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.04	0.55	0.90	0.09	0.14	8	16	28
Beatrice	0.06	0.55	0.90	0.09	0.14	9	17	27
Berwick Bank	0.01	0.99	0.90	0.09	0.14	21	128	37
Blyth Demo				0.09	0.14		5	0
Buchan	0.07	0.91	0.90	0.09	0.14	14	16	7
Caledonia North	0.04	0.55	0.90	0.09	0.14	5	17	3

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Caledonia South	0.03	0.55	0.90	0.09	0.14	11	16	2
Cenos	0.06	0.98	0.90	0.09	0.14	11	11	18
Dogger Bank A				0.09	0.14		78	26
Dogger Bank B				0.09	0.14		97	32
Dogger Bank South				0.09	0.14		134	18
Dogger Bank C				0.09	0.14		32	20
Sofia				0.09	0.14		43	20
Dudgeon				0.09	0.14		4	8
Dudgeon Extension				0.09	0.14		29	6
East Anglia One				0.09	0.14		228	13
East Anglia One North				0.09	0.14		40	6
East Anglia Three				0.09	0.14		76	51
East Anglia Two				0.09	0.14		76	26
Five Estuaries				0.09	0.14		55	9
Galloper				0.09	0.14		40	30
Green Volt	0.05	0.55	0.90	0.09	0.14	5	2	14
Hornsea Project One		0.62		0.09	0.14		45	28
Hornsea Project Two		0.72		0.09	0.14		66	23
Hornsea Project Three		0.73		0.09	0.14		84	56

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Hornsea Four				0.09	0.14		67	55
Humber Gateway				0.09	0.14		0	0
Inch Cape	0.00	0.55	0.90	0.09	0.14	0	28	11
Kincardine	0.00	0.79	0.90	0.09	0.14	0	0	0
Lincs				0.09	0.14		1	0
Moray East	0.00	0.55	0.90	0.09	0.14	0	2	3
Moray West	0.00	0.55	0.90	0.09	0.14	0	25	13
Morven North	0.00	0.96	0.90	0.09	0.14	0	30	5
Morven South	0.00	0.95	0.90	0.09	0.14	0	8	6
Muir Mhor	0.05	0.55	0.90	0.09	0.14	15	51	10
Neart na Gaoithe	0.00	0.98	0.90	0.09	0.14	0	52	54
Norfolk Boreas				0.09	0.14		147	72
Norfolk Vanguard				0.09	0.14		210	60
North Falls		0.69		0.09	0.14		25	40
Ossian	0.03	0.98	0.90	0.09	0.14	33	66	6
Outer Dowsing		0.90		0.09	0.14		42	9
Pentland		0.55	0.90	0.02	0.02	0	0	0
Race Bank				0.09	0.14		5	3
Rampion				0.09	0.14		28	38
Rampion 2				0.09	0.14		9	17
Salamander	0.04	0.94	0.90	0.09	0.14	16	16	25

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
SeaGreen Bravo	0.00	0.97	0.90	0.09	0.14	0	30	20
SeaGreen Alpha	0.00	0.97	0.90	0.09	0.14	0	26	14
Sheringham Shoal Extension				0.09	0.14		25	2
Teesside				0.09	0.14		0	0
Thanet				0.09	0.14		1	0
Triton Knoll				0.09	0.14		25	7
West of Orkney	0.00	0.55	0.90	0.02	0.02	0	24	3
Total population estimates (all projects including Morven North and Morven South)						148	2,298	984
Displacement mortality	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				1	16	7
Annual mortality (birds/annum)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				24		
Change in baseline mortality (percentage point change)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.041		

Table 5.137: Summary of population viability analysis results for in-combination displacement impacts on the gannet feature of the Hermaness, Saxa Vord and Valla Field Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	109,323	1.012	53.17	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	23.8	0.040	107,556	1.012	50.67	1.000	0.984	47.5
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	71.4	0.121	103,937	1.011	45.74	0.999	0.952	41.9
Applicant	24.0	0.041	107,470	1.012	50.57	1.000	0.983	47.3

Outer Firth of Forth and St Andrew's Bay Complex SPA

5.5.3.328 Of those SPAs for which in-combination displacement impacts have been assessed, the Outer Firth of Forth and St Andrew's Bay Complex SPA supports kittiwake from the Fowlsheugh SPA and the Buchan Ness to Collieston Coast SPA, guillemot from the Forth Islands SPA, the St Abb's Head to Fast Castle SPA, the Fowlsheugh SPA and the Buchan Ness to Collieston Coast SPA, razorbill at the Forth Islands SPA, puffin at the Forth Islands SPA and gannet from the Forth Islands SPA.

5.5.3.329 Conclusions of no AEOI have been reached for all of the SPAs for which in-combination displacement impacts have been considered for kittiwake, guillemot, razorbill, puffin and gannet from SPAs from which birds are supported by the Outer Firth of Forth and St Andrew's Bay Complex SPA with the exception of guillemot at the Forth Islands SPA

5.5.3.330 As the Outer Firth of Forth and St Andrew's Bay Complex SPA supports guillemot from this SPA an AEOI is also concluded for the Outer Firth of Forth and St Andrew's Bay Complex SPA in relation to in-combination displacement impacts on guillemot.

5.5.3.331 It is therefore concluded that there is the potential for an AEOI on the guillemot populations of the Outer Firth of Forth and St Andrew's Bay Complex SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects .

Northumberland Marine SPA

5.5.3.332 Of those SPAs for which in-combination displacement impacts have been assessed, the Northumberland Marine SPA is designated to support puffin from the Coquet Island SPA and the Farne Islands SPA.

5.5.3.333 A conclusion of no AEOI have been reached for the puffin feature of the Coquet Island SPA and the Farne Islands SPA. A conclusion of no AEOI have been reached for the puffin feature of these SPA. The conclusion reached for the puffin qualifying feature of these SPAs is considered applicable to the puffin qualifying feature of the Northumberland Marine SPA. Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the puffin population of the Northumberland Marine SPA in relation to displacement impacts associated with Morven South in-combination with other plans and projects.

Conclusion

5.5.3.334 Potential effects from in-combination displacement risk impacts on the relevant conservation objectives of each SPA (as presented in Table 5.9) are discussed in Appendix A. Impacts that undermine the conservation objectives will not occur as a result of in-combination displacement risk impacts for the following SPAs and relevant offshore ornithological qualifying features:

- Kittiwake at the Buchan Ness to Collieston Coast SPA;
- Kittiwake at the East Caithness Cliffs SPA;
- Kittiwake at the Flamborough and Filey Coast SPA;
- Kittiwake at the Fowlsheugh SPA;
- Kittiwake at the Northumberland Marine SPA;
- Guillemot at the Buchan Ness to Collieston Coast SPA;
- Guillemot at the Fowlsheugh SPA;
- Guillemot at the St Abb's Head to Fast Castle SPA;
- Razorbill at the East Caithness Cliffs SPA;
- Razorbill at the Flamborough and Filey Coast SPA;
- Razorbill at the Forth Islands SPA;
- Razorbill at the Fowlsheugh SPA;
- Puffin at the Coquet Island SPA;
- Puffin at the Farne Islands SPA;

- Puffin at the Forth Islands SPA;
- Puffin at the Foula SPA;
- Puffin at the Hermaness, Saxa Vord and Valla Field SPA;
- Puffin at the Northumberland Marine SPA;
- Gannet at the Forth Islands SPA;
- Gannet at the Hermaness, Saxa Vord and Valla Field SPA.

5.5.3.335 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI of any of these SPAs in relation to in-combination displacement impacts associated with Morven South in-combination with other plans and projects. For breeding seabird assemblage features the conclusions reached for individual qualifying features and named qualifiers are considered equally applicable to the assemblage features.

5.5.3.336 Impacts that undermine the conservation objectives are considered likely to occur as a result of in-combination displacement impacts for the following SPA and qualifying feature combinations:

- Guillemot at the Forth Islands SPA;
- Guillemot at the Troup, Pennan and Lion's Heads SPA;
- Razorbill at the St Abb's Head to Fast Castle SPA.

5.5.3.337 As the features identified above form part of the breeding seabird assemblage at the relevant SPA an AEOI is also identified for the breeding seabird assemblage at these SPAs. In addition, the potential for AEOI has also been identified for the Outer Firth of Forth and St Andrew's Bay Complex SPA as this SPA supports guillemot from the Forth Islands SPA.

5.5.3.338 Therefore, it can be concluded beyond reasonable scientific doubt that there will be an AEOI on the SPA and feature combinations identified above in relation to in-combination displacement impacts associated with Morven South in-combination with other plans and projects.

5.5.4 Combined collision and displacement

Operation and maintenance phase

5.5.4.1 Two species are known to be adversely affected by both displacement and collision during the operations and maintenance phase: kittiwake and gannet. For these species, impacts must be combined in order for the true magnitude of impact to be understood.

5.5.4.2 The LSE[2] assessment during the HRA Stage 1 screening process (Morven Site HRA Screening Report and Section 5 of RIAA Part 1) identified that during the operations and maintenance phase, the potential for LSE[2] could not be ruled out for potential in-combination collision combined with displacement. This relates to the following site(s) and relevant offshore ornithological features and therefore they are progressed to in-combination assessments:

- Kittiwake at the Buchan Ness to Collieston Coast SPA;
- Kittiwake at the East Caithness Cliffs SPA;
- Kittiwake at the Flamborough and Filey Coast SPA;
- Kittiwake at the Fowlsheugh SPA;
- Kittiwake at the St Abb's Head to Fast Castle SPA;
- Kittiwake at the Troup, Pennan and Lion's Heads SPA;
- Gannet at the Forth Islands SPA;
- Gannet at the Hermaness, Saxa Ford and Valla Field SPA.

5.5.4.3 The predicted impact for all other SPA and qualifying features combinations included in Table 5.34 and Table 5.35 is considered to be undetectable against the existing baseline mortality of each population and therefore Morven South will make no measurable contribution to any existing in-combination impact.

5.5.4.4 This list includes additional SPAs to those considered in the assessments for collision risk and displacement independently (gannet at the Hermaness, Saxa Ford and Valla Field SPA) as the combined impact exceeds the 0.2 birds/annum impact recommended by NatureScot as the threshold for when in-combination impacts should be considered. However, the MDS for gannet remains the same as the MDS considered for other SPAs in Sections 5.5.2 and 5.5.3. For clarity, the MDS for combined collision and displacement impacts is presented in Table 5.138.

5.5.4.5 In addition, a number of SPAs that support the breeding populations of features from SPAs included in the list above are also included in the in-combination assessment. This is applicable to the Outer Firth of Forth and St Andrew's Bay Complex SPA which supports kittiwake from the St Abb's Head to Fast Castle SPA, the Fowlsheugh SPA, the Buchan Ness to Collieston Coast SPA and the Troup, Pennan and Lion's Heads SPA and gannet from the Forth Islands SPA.

5.5.4.6 Throughout the following assessment sections it is important to take account of the following uncertainties associated with the PVA modelling used to inform the assessment:

- Over-estimation of in-combination impacts. The PVA modelling does not account for changes in the predicted in-combination total due to the decommissioning of projects considered in-combination. Over the lifetime of Morven South the in-combination impact will reduce significantly when licences for current projects expire and decommissioning occurs. The PVA metrics are therefore highly precautionary.
- No consideration has been made for density dependent compensation of demographic parameters within the modelled population, nor immigration, both of which could reduce the magnitude of any population change.

5.5.4.7 In addition, the in-combination collision risk estimates calculated under both the Applicant's and NatureScot's approaches are considered to be over-estimates due to the following factors:

- The use of flight speeds that do not provide a robust representation of the behaviour of kittiwake in the modelling conducted for projects considered in-combination. For kittiwake an approximate 27% reduction would be expected if more robust flight speeds are used (Ørsted, 2018). For gannet, an approximate 7% reduction would be expected if more robust flight speeds are used (see Volume 3, Annex 11.2 Offshore Ornithology Collision Risk Modelling Report of the EIA Report for more information).
- Collision risk estimates for projects considered in-combination are calculated using the assessed turbine scenario. The assessed turbine scenario often doesn't represent the final design for a project with these as-built turbine scenarios often having a much lower associated collision risk. This can lead to a significant over-estimation of in-combination effects.

Table 5.138: Maximum Design Scenario considered for the assessment of potential impacts due to combined collision and displacement in the operations and maintenance phase of Morven South in-combination with other plans and projects

Project phase	MDS	Justification
Operation and maintenance	There are no collision risk or displacement impacts associated with the MHPGC Project and MBAGC Project and therefore only scenarios 3 and 4 are relevant to the in-combination assessment of combined collision and displacement. **Scenario 3** MDS as described for Morven South (Table 5.21 and Table 5.28), assessed in-combination with Morven North. **Scenario 4** MDS as described for Morven South (Table 5.21 and Table 5.28), assessed in-combination with Morven North, and the following other projects and plans: **Tier 1** • Aberdeen • Aspen • Beatrice • Berwick Bank • Blyth Demo • Buchan • Caledonia • Cenos • Dogger Bank A + B • Dogger Bank C + Sofia • Dogger Bank South • Dudgeon • East Anglia One • East Anglia One North	There is potential for an in-combination effect from operations and maintenance activities and so a quantitative in-combination assessment is required.

Project phase	MDS	Justification
	• East Anglia Three • East Anglia Two • Five Estuaries • Galloper • Green Volt • Gunfleet Sands • Hornsea Four • Hornsea Project One • Hornsea Project Three • Hornsea Project Two • Hywind • Inch Cape • Kentish Flats • Kentish Flats Extension • Kincardine • Lincs • Moray East • Moray West • Muir Mhor • Neart na Gaoithe • Norfolk Boreas • Norfolk Vanguard • North Falls • Ossian • Outer Dowsing • Pentland • Race Bank	

Project phase	MDS	Justification
	• Rampion • Rampion 2 • Salamander • SeaGreen (Alpha & Bravo) • Sheringham Shoal and Dudgeon Extensions • Thanet • Triton Knoll • West of Orkney • Westermost Rough	

Kittiwake

5.5.4.8 Collision risk estimates and displacement mortalities for kittiwake apportioned to each of the SPAs identified in paragraph 5.5.4.2 are presented on an annual basis in the following SPA-specific section. These values are taken from the relevant SPA sections in Section 5.5.2 (collision risk) and Section 5.5.3(displacement) where these values are already presented. Where such values are not presented they are presented in the relevant SPA section below. The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance.

5.5.4.9 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature (NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Buchan Ness to Collieston Coast Special Protection Area

5.5.4.10 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.139 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total combined collision and displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.4.11 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Buchan Ness to Collieston Coast SPA in relation to combined collision and displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.139: Predicted annual mortality of kittiwake at the Buchan Ness to Collieston Coast Special Protection Area resulting from combined collision and displacement impacts associated with the Morven Programme (Scenario 3)

Project	Impact	Annual impact (no. of birds)
NatureScot's approach		
Morven South	Collision	0.4
	Displacement	0.1 to 0.3
Morven North	Collision	1.5
	Displacement	0.6 to 1.7
Total annual mortality (birds/annum)		2.6 to 3.9
Change in baseline mortality (percentage point change)		0.011 to 0.017
Applicant's approach		
Morven South	Collision	0.1
	Displacement	0.1
Morven North	Collision	0.5
	Displacement	0.9
Total annual mortality (birds/annum)		1.7
Change in baseline mortality (percentage point change)		0.007

5.5.4.12 The predicted impact of Morven South in-combination with other plans and projects on kittiwake at the Buchan Ness to Collieston Coast SPA is presented in Table 5.140 for NatureScot's and the Applicant's approaches. The total in-combination impact apportioned to the kittiwake population at the Buchan Ness to Collieston Coast SPA is 87 to 120 birds when applying NatureScot's approach and 46 birds when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

Table 5.140: Predicted in-combination annual mortality rate of kittiwake at the Buchan Ness to Collieston Coast Special Protection Area resulting from combined collision and displacement impacts of Morven South in-combination with other plans and projects

Impact	Scenario	Annual impact (no. of birds)
Collision	NatureScot	71.1
	Applicant	26.8
Displacement	NatureScot	16.4 to 49.2
	Applicant	19.3
Total annual mortality (birds/annum)	NatureScot	87.5 to 120.3
	Applicant	46.1
Change in baseline mortality (percentage point change)	NatureScot	0.387 to 0.532
	Applicant	0.204

5.5.4.13 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.802 to 0.852; (i.e. the population after 35 years, would be 14.8 to 19.8% smaller than the CPS with a 50th percentile value of 36.5 to 31.2 (Table 5.141)). In terms of the population size, this means that the median of the impacted population fell within the 37th to 31st percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.994 to 0.995 which translates to a growth rate 0.5 to 0.6% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.4.14 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.998 and a median CPS of 0.919 (i.e. the population growth rate would be 0.2% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 8.1% smaller than the counterfactual population size). The 50th percentile value is 42.5, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.4.15 The population of kittiwake at the Buchan Ness to Collieston Coast SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the Buchan Ness to Collieston Coast SPA decreased between the Seabird 2000 and Seabirds Count national censuses but has increased slightly since Seabirds Count (BTO *et al*, 2025).

5.5.4.16 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the

potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.17 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhor, Ossian and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.4.18 When the factors discussed in paragraphs 5.5.4.6 and 5.5.4.7 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered.

5.5.4.19 Impacts on kittiwake that undermine the conservation objectives of the at the Buchan Ness to Collieston Coast SPA will not occur as a result of in-combination combined collision and displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.4.20 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Buchan Ness to Collieston Coast SPA in relation to combined collision and displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.141: Summary of population viability analysis results for in-combination combined collision and displacement impacts on the kittiwake feature of the Buchan Ness to Collieston Coast Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	25,588	1.003	9.16	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	87.5	0.387	21,812	0.998	-7.04	0.995	0.852	36.5
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	120.3	0.532	20,481	0.996	-12.42	0.994	0.802	31.2
Applicant	46.1	0.204	23,448	1.000	0.55	0.998	0.919	42.5

East Caithness Cliffs Special Protection Area

5.5.4.21 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.142 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total combined collision and displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.4.22 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the East Caithness Cliffs SPA in relation to combined collision and displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.142: Predicted annual mortality of kittiwake at the East Caithness Cliffs Special Protection Area resulting from combined collision and displacement impacts associated with the Morven Programme (Scenario 3)

Project	Impact	Annual impact (no. of birds)
NatureScot's approach		
Morven South	Collision	0.4
	Displacement	0.1 to 0.3
Morven North	Collision	0.8
	Displacement	0.3 to 0.8
Total annual mortality (birds/annum)		1.6 to 2.4
Change in baseline mortality (percentage point change)		0.003 to 0.005
Applicant's approach		
Morven South	Collision	0.1
	Displacement	0.1
Morven North	Collision	0.2
	Displacement	0.4
Total annual mortality (birds/annum)		0.9
Change in baseline mortality (percentage point change)		0.002

5.5.4.23 The predicted impact of Morven South in-combination with other plans and projects on kittiwake at the East Caithness Cliffs SPA is presented in Table 5.143 for NatureScot's and the Applicant's approaches. The total in-combination impact apportioned to the kittiwake population at the East Caithness Cliffs SPA is 273 to 384 birds when applying NatureScot's approach and 153 birds when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

Table 5.143: Predicted in-combination annual mortality rate of kittiwake at the East Caithness Cliffs Special Protection Area resulting from combined collision and displacement impacts of Morven South in-combination with other plans and projects.

Impact	Scenario	Annual impact (no. of birds)
Collision	NatureScot	217.2
	Applicant	88.1
Displacement	NatureScot	55.4 to 166.3
	Applicant	64.6
Total annual mortality (birds/annum)	NatureScot	272.7 to 383.6
	Applicant	152.7
Change in baseline mortality (percentage point change)	NatureScot	0.557 to 0.783
	Applicant	0.312

5.5.4.24 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.721 to 0.794; (i.e. the population after 35 years, would be 20.6 to 27.9% smaller than the CPS with a 50th percentile value of 23.6 to 30.1 (Table 5.144)). In terms of the population size, this means that the median of the impacted population fell within the 24th to 30th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.991 to 0.993 which translates to a growth rate 0.7 to 0.9% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.4.25 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.996 and a median CPS of 0.879 (i.e. the population growth rate would be 0.4% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 12.1% smaller than the counterfactual population size). The 50th percentile value is 38.5, within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.4.26 The population of kittiwake at the East Caithness Cliffs SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the East Caithness Cliffs SPA decreased between the Seabird 2000 and Seabirds Count national censuses and has decreased further since Seabirds Count (BTO *et al*, 2025). Despite this the population is currently considered to be in favourable condition.

5.5.4.27 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.28 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhor, Ossian, Salamander and West of Orkney. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.4.29 When the factors discussed in paragraphs 5.5.4.6 and 5.5.4.7 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered.

5.5.4.30 Impacts on kittiwake that undermine the conservation objectives of the at the East Caithness Cliffs SPA will not occur as a result of in-combination combined collision and displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.4.31 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the East Caithness Cliffs SPA in relation to combined collision and displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.144: Summary of population viability analysis results for in-combination combined collision and displacement impacts on the kittiwake feature of the East Caithness Cliffs Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	55,109	1.002	8.26	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	272.7	0.557	43,635	0.996	-14.25	0.993	0.794	30.1
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	383.6	0.783	39,795	0.993	-21.86	0.991	0.721	23.6
Applicant	152.7	0.312	48,303	0.999	-4.75	0.996	0.879	38.5

Flamborough and Filey Coast Special Protection Area

5.5.4.32 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.145 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total combined collision and displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.4.33 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Flamborough and Filey Coast SPA in relation to combined collision and displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.145: Predicted annual mortality of kittiwake at the Flamborough and Filey Coast Special Protection Area resulting from combined collision and displacement impacts associated with the Morven Programme (Scenario 3)

Project	Impact	Annual impact (no. of birds)
NatureScot's approach		
Morven South	Collision	0.7
	Displacement	0.1 to 0.4
Morven North	Collision	1.1
	Displacement	0.4 to 1.2
Total annual mortality (birds/annum)		2.3 to 3.4
Change in baseline mortality (percentage point change)		0.002 to 0.003
Applicant's approach		
Morven South	Collision	0.2
	Displacement	0.2
Morven North	Collision	0.4
	Displacement	0.6
Total annual mortality (birds/annum)		1.3
Change in baseline mortality (percentage point change)		0.001

5.5.4.34 The predicted impact of Morven South in-combination with other plans and projects on kittiwake at the Flamborough and Filey Coast SPA is presented in Table 5.146 for NatureScot's and the Applicant's approaches. The total in-combination impact apportioned to the kittiwake population at the Flamborough and Filey Coast SPA is 381 to 544 birds when applying NatureScot's approach and 208 birds when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

Table 5.146: Predicted in-combination annual mortality rate of kittiwake at the Flamborough and Filey Coast Special Protection Area resulting from combined collision and displacement impacts of Morven South in-combination with other plans and projects

Impact	Scenario	Annual impact (no. of birds)
Collision	NatureScot	299.5
	Applicant	111.9
Displacement	NatureScot	81.4 to 244.3
	Applicant	95.6
Total annual mortality (birds/annum)	NatureScot	381.0 to 543.8
	Applicant	207.5
Change in baseline mortality (percentage point change)	NatureScot	0.370 to 0.528
	Applicant	0.201

5.5.4.35 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.798 to 0.854; (i.e. the population after 35 years, would be 14.6 to 20.2% smaller than the CPS with a 50th percentile value of 31.7 to 36.9 (Table 5.147)). In terms of the population size, this means that the median of the impacted population fell within the 32nd to 37th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.994 to 0.996 which translates to a growth rate 0.4 to 0.6% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.4.36 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.998 and a median CPS of 0.918 (i.e. the population growth rate would be 0.2% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 8.2% smaller than the counterfactual population size). The 50th percentile value is 42.6, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.4.37 The population of kittiwake at the Flamborough and Filey Coast SPA is currently above the population at designation (Table 5.8). The population of kittiwake at the Flamborough and Filey Coast SPA slightly increased (by 7%) between the Seabird 2000 and Seabirds Count national censuses but has decreased since Seabirds Count (BTO *et al*, 2025).

5.5.4.38 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.39 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Dogger Bank South, East Anglia One North, East Anglia Two, Five Estuaries, Hornsea Three, Hornsea Four, Norfolk Boreas, Norfolk Vanguard, North Falls,

Ossian, Outer Dowsing, Rampion 2, Sheringham Shoal Extension and Dudgeon Extension. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.4.40 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the kittiwake population at the SPA from continuing to grow, noting that the population of kittiwake at the SPA has shown an increasing trend between the two most recent national censuses. In addition consideration should be given to other factors discussed in paragraphs 5.5.4.6 and 5.5.4.7 and the compensation required at other projects. It is also important to note that the Flamborough and Filey Coast SPA falls under the remit of Natural England. Natural England do not require consideration of displacement impacts for kittiwake.

5.5.4.41 When the factors discussed in paragraphs 5.5.4.6 and 5.5.4.7 and the compensation required at other projects are taken into account it is considered that impacts on kittiwake that undermine the conservation objectives of the at the Flamborough and Filey Coast SPA will therefore not occur as a result of in-combination combined collision and displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.4.42 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Flamborough and Filey Coast SPA in relation to combined collision and displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.147: Summary of population viability analysis results for in-combination combined collision and displacement impacts on the kittiwake feature of the Flamborough and Filey Coast Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	117,660	1.002	8.97	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	381.1	0.370	100,253	0.998	-7.20	0.996	0.854	36.9
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	543.9	0.528	93,843	0.996	-13.27	0.994	0.798	31.7
Applicant	207.6	0.201	107,858	1.000	0.23	0.998	0.918	42.6

Fowlsheugh Special Protection Area

5.5.4.43 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.148 for both NatureScot's and the Applicant's approach. The predicted impact under the upper NatureScot displacement and mortality rate scenario exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore PVA modelling has been undertaken.

Table 5.148: Predicted annual mortality of kittiwake at the Fowlsheugh Special Protection Area resulting from combined collision and displacement impacts associated with the Morven Programme (Scenario 3)

Project	Impact	Annual impact (no. of birds)
NatureScot's approach		
Morven South	Collision	0.8
	Displacement	0.1 to 0.4
Morven North	Collision	2.9
	Displacement	1.1 to 3.3
Total annual mortality (birds/annum)		5.0 to 7.5
Change in baseline mortality (percentage point change)		0.018 to 0.027
Applicant's approach		
Morven South	Collision	0.3
	Displacement	0.2
Morven North	Collision	1.1
	Displacement	1.8
Total annual mortality (birds/annum)		3.3
Change in baseline mortality (percentage point change)		0.007

5.5.4.44 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's upper parameters indicates a median CPS of 0.990; (i.e. the population after 35 years, would be 1.1% smaller than the CPS with a 50th percentile value of 48.9 (Table 5.150)). In terms of the population size, this means that the median of the impacted population fell within the 49th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 1.000 which translates to a growth rate 0.0 % smaller than the counterfactual (unimpacted) growth rate. As there is no material change in the growth rate of the population this level of impact would not adversely affect the population would therefore be undetectable against natural population fluctuations. It can therefore be concluded that the total combined collision and displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.4.45 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Fowlsheugh SPA in relation to combined collision and displacement impacts associated with the Morven Programme (Scenario 3).

5.5.4.46 The predicted impact of Morven South in-combination with other plans and projects on kittiwake at the Fowlsheugh SPA is presented in Table 5.149 for NatureScot's and the Applicant's approaches. The total in-combination impact apportioned to the kittiwake population at the Fowlsheugh SPA is 129 to 178 birds when applying NatureScot's approach and 83 birds when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

Table 5.149: Predicted in-combination annual mortality rate of kittiwake at the Fowlsheugh Special Protection Area resulting from combined collision and displacement impacts of Morven South in-combination with other plans and projects

Impact	Scenario	Annual impact (no. of birds)
Collision	NatureScot	104.6
	Applicant	48.5
Displacement	NatureScot	24.4 to 73.2
	Applicant	35.0
Total annual mortality (birds/annum)	NatureScot	128.9 to 177.7
	Applicant	83.5
Change in baseline mortality (percentage point change)	NatureScot	0.459 to 0.633
	Applicant	0.297

5.5.4.47 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.769 to 0.826; (i.e. the population after 35 years, would be 17.4 to 23.10% smaller than the CPS with a 50th percentile value of 27.7 to 33.1 (Table 5.150)). In terms of the population size, this means that the median of the impacted population fell within the 28th to 33rd percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.993 to 0.995 which translates to a growth rate 0.6 to 0.8% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.4.48 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.997 and a median CPS of 0.883 (i.e. the population growth rate would be 0.3% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 11.7% smaller than the counterfactual population size). The 50th percentile value is 39.1, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.4.49 The population of kittiwake at the Fowlsheugh SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the Fowlsheugh SPA decreased between the Seabird 2000 and Seabirds Count national censuses but has increased since Seabirds Count (BTO et al, 2025).

5.5.4.50 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.51 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Cenos, Green Volt, Muir Mhor, Ossian and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.4.52 When the factors discussed in paragraphs 5.5.4.6 and 5.5.4.7 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered.

5.5.4.53 Impacts on kittiwake that undermine the conservation objectives of the at the Fowlsheugh SPA will not occur as a result of in-combination combined collision and displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.4.54 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Fowlsheugh SPA in relation to combined collision and displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.150: Summary of population viability analysis results for in-combination combined collision and displacement impacts on the kittiwake feature of the Fowlsheugh Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Morven Programme (Scenario 3)								
Baseline	-	-	31,588	1.002	8.33	-	-	-
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	7.5	0.027	31,192	1.002	7.23	1.000	0.990	48.9
In-combination (Scenario 4)								
Baseline	-	-	31,491	1.002	8.23	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	128.9	0.459	26,075	0.997	-10.45	0.995	0.826	33.1
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	177.7	0.633	24,235	0.995	-16.81	0.993	0.769	27.7
Applicant	83.5	0.309	27,876	0.999	-4.39	0.997	0.883	39.1

St Abb's Head to Fast Castle Special Protection Area

5.5.4.55 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.151 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total combined collision and displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.4.56 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the St Abb's Head to Fast Castle SPA in relation to combined collision and displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.151: Predicted annual mortality of kittiwake at the St Abb's Head to Fast Castle Special Protection Area resulting from combined collision and displacement impacts associated with the Morven Programme (Scenario 3)

Project	Impact	Annual impact (no. of birds)
NatureScot's approach		
Morven South	Collision	0.3
	Displacement	0.0 to 0.1
Morven North	Collision	0.5
	Displacement	0.2 to 0.6
Total annual mortality (birds/annum)		1.0 to 1.5
Change in baseline mortality (percentage point change)		0.010 to 0.015
Applicant's approach		
Morven South	Collision	0.1
	Displacement	0.1
Morven North	Collision	0.2
	Displacement	0.3
Total annual mortality (birds/annum)		0.7
Change in baseline mortality (percentage point change)		0.006

5.5.4.57 The project alone displacement impact predicted for kittiwake at the St Abb's Head to Fast Castle SPA did not surpass the 0.2 birds/annum threshold, as defined by NatureScot to identify those features to progress to an in-combination assessment. This SPA was therefore not included in section 5.5.3 which assesses in-combination displacement in isolation for kittiwake. The predicted in-combination collision impact on kittiwake at the St Abb's Head to Fast Castle SPA is presented in Table 5.152 for NatureScot's approach and Table 5.153 for the Applicant's approach.

Table 5.152: Mean-peak population estimates for kittiwake at the St Abb's Head to Fast Castle Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.04	0.53	0.90	<0.01	0.01	2	0	1
Beatrice	0.00	0.53	0.90	<0.01	0.01	0	4	5
Berwick Bank	0.52	0.53	0.90	<0.01	0.01	5284	55	90
Blyth Demo	0.09	0.53	0.90	<0.01	0.01	2	2	0
Buchan	0.01	0.53	0.90	<0.01	0.01	1	1	2
Caledonia North	0.01	0.53	0.90	<0.01	0.01	2	2	0
Caledonia South	0.01	0.53	0.90	<0.01	0.01	5	2	0
Cenos	0.05	0.53	0.90	<0.01	0.01	5	0	0
Dogger Bank A	0.00	0.53	0.90	<0.01	0.01	0	8	45
Dogger Bank B	0.00	0.53	0.90	<0.01	0.01	0	9	56
Dogger Bank South	0.02	0.53	0.90	<0.01	0.01	104	26	18
Dogger Bank C	0.00	0.53	0.90	<0.01	0.01	0	5	32
Sofia	0.00	0.53	0.90	<0.01	0.01	0	6	44
Dudgeon				<0.01	0.01		0	1
Dudgeon Extension				<0.01	0.01		7	1
East Anglia One				<0.01	0.01		4	2
East Anglia One North				<0.01	0.01		1	1

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
East Anglia Three				<0.01	0.01		7	5
East Anglia Two				<0.01	0.01		1	2
Five Estuaries				<0.01	0.01		1	4
Galloper				<0.01	0.01		2	5
Green Volt	0.02	0.53	0.90	<0.01	0.01	2	1	1
Hornsea Project One				<0.01	0.01		105	8
Hornsea Project Two				<0.01	0.01		7	14
Hornsea Project Three				<0.01	0.01		12	14
Hornsea Four	0.00	0.53	0.90	<0.01	0.01	0	6	3
Humber Gateway	0.00	0.53	0.90	<0.01	0.01	0	0	0
Inch Cape	0.06	0.53	0.90	<0.01	0.01	104	11	5
Kincardine	0.00	0.53	0.90	<0.01	0.01	0	3	0
Lincs				<0.01	0.01		0	0
Moray East	0.00	0.53	0.90	<0.01	0.01	0	1	1
Moray West	0.00	0.53	0.90	<0.01	0.01	0	7	7
Morven North	0.05	0.53	0.90	<0.01	0.01	62	2	1
Morven South	0.07	0.53	0.90	<0.01	0.01	14	1	1
Muir Mhor	0.02	0.53	0.90	<0.01	0.01	30	0	5
Neart na Gaoithe	0.10	0.53	0.90	<0.01	0.01	102	10	1

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Norfolk Boreas				<0.01	0.01		13	7
Norfolk Vanguard				<0.01	0.01		4	11
North Falls				<0.01	0.01		2	5
Ossian	0.06	0.53	0.90	<0.01	0.01	91	3	4
Outer Dowsing				<0.01	0.01		5	7
Pentland				<0.01	0.01		1	0
Race Bank				<0.01	0.01		0	0
Salamander	0.01	0.53	0.90	<0.01	0.01	19	1	1
SeaGreen Bravo	0.02	0.53	0.90	<0.01	0.01	49	7	6
SeaGreen Alpha	0.02	0.53	0.90	<0.01	0.01	85	16	7
Sheringham Shoal Extension				<0.01	0.01		1	0
Teesside	0.02	0.53	0.90	<0.01	0.01	2	0	0
Thanet				<0.01	0.01		0	0
Triton Knoll				<0.01	0.01		1	2
West of Orkney				<0.01	0.01		4	8
Total population estimates (all projects including Morven North and Morven South)						5,964	366	431
Displacement mortality	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				8	4	5
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				24	12	14

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Annual mortality (birds/annum)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				17		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				51		
Change in baseline mortality (percentage point change)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.165		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				0.496		

Table 5.153: Mean-peak population estimates for kittiwake at the St Abb's Head to Fast Castle Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.04	0.53	0.90	<0.01	0.01	2	0	1
Beatrice	0.00	0.53	0.90	<0.01	0.01	0	4	5
Berwick Bank	0.52	0.92	0.90	<0.01	0.01	9162	55	90
Blyth Demo	0.09	0.53	0.90	<0.01	0.01	2	2	0
Buchan	0.01	0.82	0.90	<0.01	0.01	2	1	2
Caledonia North	0.01	0.53	0.90	<0.01	0.01	2	2	0
Caledonia South	0.01	0.53	0.90	<0.01	0.01	5	2	0

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Cenos	0.05	0.87	0.90	<0.01	0.01	8	0	0
Dogger Bank A	0.00	0.53	0.90	<0.01	0.01	0	8	45
Dogger Bank B	0.00	0.53	0.90	<0.01	0.01	0	9	56
Dogger Bank South	0.02	0.53	0.90	<0.01	0.01	104	26	18
Dogger Bank C	0.00	0.53	0.90	<0.01	0.01	0	5	32
Sofia	0.00	0.53	0.90	<0.01	0.01	0	6	44
Dudgeon				<0.01	0.01		0	1
Dudgeon Extension				<0.01	0.01		7	1
East Anglia One				<0.01	0.01		4	2
East Anglia One North				<0.01	0.01		1	1
East Anglia Three				<0.01	0.01		7	5
East Anglia Two				<0.01	0.01		1	2
Five Estuaries				<0.01	0.01		1	4
Galloper				<0.01	0.01		2	5
Green Volt	0.02	0.53	0.90	<0.01	0.01	2	1	1
Hornsea Project One		0.74		<0.01	0.01		105	8
Hornsea Project Two		0.86		<0.01	0.01		7	14
Hornsea Project Three		0.88		<0.01	0.01		12	14

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Hornsea Four	0.00	0.53	0.90	<0.01	0.01	0	6	3
Humber Gateway	0.00	0.53	0.90	<0.01	0.01	0	0	0
Inch Cape	0.06	0.53	0.90	<0.01	0.01	104	11	5
Kincardine	0.00	0.95	0.90	<0.01	0.01	0	3	0
Lincs				<0.01	0.01		0	0
Moray East	0.00	0.92	0.90	<0.01	0.01	0	1	1
Moray West	0.00	0.97	0.90	<0.01	0.01	0	7	7
Morven North	0.05	0.87	0.90	<0.01	0.01	102	2	1
Morven South	0.07	0.78	0.90	<0.01	0.01	20	1	1
Muir Mhor	0.02	0.53	0.90	<0.01	0.01	30	0	5
Neart na Gaoithe	0.10	0.82	0.90	<0.01	0.01	158	10	1
Norfolk Boreas				<0.01	0.01		13	7
Norfolk Vanguard				<0.01	0.01		4	11
North Falls		0.59		<0.01	0.01		2	5
Ossian	0.06	0.84	0.90	<0.01	0.01	144	3	4
Outer Dowsing		0.77		<0.01	0.01		5	7
Pentland				<0.01	0.01		1	0
Race Bank				<0.01	0.01		0	0
Salamander	0.01	0.69	0.90	<0.01	0.01	24	1	1
SeaGreen Bravo	0.02	0.94	0.90	<0.01	0.01	87	7	6
SeaGreen Alpha	0.02	0.94	0.90	<0.01	0.01	150	16	7

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Sheringham Shoal Extension				<0.01	0.01		1	0
Teesside	0.02	0.53	0.90	<0.01	0.01	2	0	0
Thanet				<0.01	0.01		0	0
Triton Knoll				<0.01	0.01		1	2
West of Orkney				<0.01	0.01		4	8
Total population estimates (all projects including Morven North and Morven South)						10,110	366	431
Displacement mortality	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				30	1	1
Annual mortality (birds/annum)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				33		
Change in baseline mortality (percentage point change)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.318		

5.5.4.58 The predicted impact of Morven South in-combination with other plans and projects on kittiwake at the St Abb's Head to Fast Castle SPA is presented in Table 5.154 for NatureScot's and the Applicant's approaches. The total in-combination impact apportioned to the kittiwake population at the St Abb's Head to Fast Castle SPA is 134 to 168 birds when applying NatureScot's approach and 91 birds when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

Table 5.154: Predicted in-combination annual mortality rate of kittiwake at the St Abb's Head to Fast Castle Special Protection Area resulting from combined collision and displacement impacts of Morven South in-combination with other plans and projects

Impact	Scenario	Annual impact (no. of birds)
Collision	NatureScot	117.2
	Applicant	57.8
Displacement	NatureScot	17.0 to 51.1
	Applicant	32.7
Total annual mortality (birds/annum)	NatureScot	134.3 to 168.3
	Applicant	90.5
Change in baseline mortality (percentage point change)	NatureScot	1.304 to 1.634
	Applicant	0.879

5.5.4.59 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.504 to 0.580; (i.e. the population after 35 years, would be 42.0 to 59.6% smaller than the CPS with a 50th percentile value of 6.8 to 11.8 (Table 5.155)). In terms of the population size, this means that the median of the impacted population fell within the 7th to 12th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.981 to 0.985 which translates to a growth rate 1.5 to 1.9% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.4.60 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.990 and a median CPS of 0.694 (i.e. the population growth rate would be 1.0% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 30.6% smaller than the counterfactual population size). The 50th percentile value is 21.1, within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.4.61 The population of kittiwake at the St Abb's Head to Fast Castle SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the St Abb's Head to Fast Castle SPA decreased between the Seabird 2000 and Seabirds Count national censuses but has stayed stable since Seabirds Count (BTO *et al*, 2025).

5.5.4.62 When considered against the current status of the kittiwake population at the SPA, the CGR associated with both the Applicant's and NatureScot's approach is at a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.63 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.4.64 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that could prevent the kittiwake population at the SPA from continuing to recover. The population of kittiwake at the SPA has decreased between the two most recent national censuses but has shown signs of recovery since however, it remains below the designated population. The in-combination impact is considered to be an over-estimate due to various factors discussed in paragraphs 5.5.4.6 and 5.5.4.7. Whilst taking account of these factors improves the PVA metrics it is considered that this may not be to a level at which the potential for an adverse effect can confidently be ruled out.

5.5.4.65 The predicted in-combination combined collision and displacement impact for kittiwake at the St Abb's Head to Fast Castle SPA has the potential to undermine the conservation objectives for the SPA. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.4.66 Therefore, due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for an AEOI on the kittiwake population of the St Abb's Head to Fast Castle SPASPA as a result of in-combination combined collision and displacement impacts associated with Morven South and other plans and projects.

Table 5.155: Summary of population viability analysis results for in-combination combined collision and displacement impacts on the kittiwake feature of the St Abb's Head to Fast Castle Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	11,660	1.003	9.61	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	134.3	1.304	6,766	0.987	-36.35	0.985	0.580	11.8
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	168.3	1.634	5,879	0.983	-44.61	0.981	0.504	6.8
Applicant	90.5	0.879	8,092	0.992	-23.87	0.990	0.694	21.1

Troup, Pennan and Lion's Heads Special Protection Area

5.5.4.67 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.156 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total combined collision and displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.4.68 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Troup, Pennan and Lion's Heads SPA in relation to combined collision and displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.156: Predicted annual mortality of kittiwake at the Troup, Pennan and Lion's Heads Special Protection Area resulting from combined collision and displacement impacts associated with the Morven Programme (Scenario 3)

Project	Impact	Annual impact (no. of birds)
NatureScot's approach		
Morven South	Collision	0.3
	Displacement	0.1 to 0.2
Morven North	Collision	0.6
	Displacement	0.2 to 0.7
Total annual mortality (birds/annum)		1.2 to 1.8
Change in baseline mortality (percentage point change)		0.006 to 0.009
Applicant's approach		
Morven South	Collision	0.1
	Displacement	0.1
Morven North	Collision	0.2
	Displacement	0.4
Total annual mortality (birds/annum)		0.7
Change in baseline mortality (percentage point change)		0.004

5.5.4.69 The project alone displacement impact predicted for kittiwake at the Troup, Pennan and Lion's Heads SPA did not surpass the 0.2 birds/annum threshold, as defined by NatureScot to identify those features to progress to an in-combination assessment. This SPA was therefore not included in section 5.5.3 which assesses in-combination displacement in isolation for kittiwake. The predicted in-combination collision impact on kittiwake at the v SPA is presented in Table 5.157 for NatureScot's approach and Table 5.158 for the Applicant's approach.

Table 5.157: Mean-peak population estimates for kittiwake at the Troup, Pennan and Lion's Heads Special Protection Area for projects considered in-combination in relation to displacement (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.06	0.53	0.90	0.02	0.03	4	1	2
Beatrice	0.03	0.53	0.90	0.02	0.03	13	15	20
Berwick Bank	0.01	0.53	0.90	0.02	0.03	51	241	392
Blyth Demo	0.01	0.53	0.90	0.02	0.03	0	9	0
Buchan	0.21	0.53	0.90	0.02	0.03	18	2	10
Caledonia North	0.16	0.53	0.90	0.02	0.03	55	7	2
Caledonia South	0.29	0.53	0.90	0.02	0.03	210	9	1
Cenos	0.12	0.53	0.90	0.02	0.03	12	1	1
Dogger Bank A				0.02	0.03		33	198
Dogger Bank B				0.02	0.03		41	243
Dogger Bank South				0.02	0.03		112	78
Dogger Bank C				0.02	0.03		20	138
Sofia				0.02	0.03		27	190
Dudgeon				0.02	0.03		0	2
Dudgeon Extension				0.02	0.03		31	4
East Anglia One				0.02	0.03		16	8
East Anglia One North				0.02	0.03		4	6

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
East Anglia Three				0.02	0.03		32	20
East Anglia Two				0.02	0.03		5	10
Five Estuaries				0.02	0.03		5	16
Galloper				0.02	0.03		8	20
Green Volt	0.19	0.53	0.90	0.02	0.03	16	3	2
Hornsea Project One				0.02	0.03		461	34
Hornsea Project Two				0.02	0.03		31	60
Hornsea Project Three				0.02	0.03		52	62
Hornsea Four				0.02	0.03		25	13
Humber Gateway				0.02	0.03		0	1
Inch Cape	0.00	0.53	0.90	0.02	0.03	0	46	24
Kincardine	0.02	0.53	0.90	0.02	0.03	6	14	2
Lincs				0.02	0.03		1	0
Moray East	0.25	0.53	0.90	0.02	0.03	235	3	4
Moray West	0.07	0.53	0.90	0.02	0.03	231	32	31
Morven North	0.06	0.53	0.90	0.02	0.03	67	9	4
Morven South	0.05	0.53	0.90	0.02	0.03	10	6	3
Muir Mhor	0.15	0.53	0.90	0.02	0.03	240	1	21
Neart na Gaoithe	0.00	0.53	0.90	0.02	0.03	0	43	4

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Norfolk Boreas				0.02	0.03		55	30
Norfolk Vanguard				0.02	0.03		19	47
North Falls				0.02	0.03		10	24
Ossian	0.07	0.53	0.90	0.02	0.03	105	12	17
Outer Dowsing				0.02	0.03		21	32
Pentland	0.00	0.53	0.90	0.02	0.03	0	3	1
Race Bank				0.02	0.03		2	1
Salamander	0.16	0.53	0.90	0.02	0.03	291	2	3
SeaGreen Bravo	0.00	0.53	0.90	0.02	0.03	0	29	27
SeaGreen Alpha	0.00	0.53	0.90	0.02	0.03	0	69	32
Sheringham Shoal Extension				0.02	0.03		3	2
Teesside				0.02	0.03		0	0
Thanet				0.02	0.03		1	0
Triton Knoll				0.02	0.03		6	8
West of Orkney	0.01	0.53	0.90	0.02	0.03	8	17	35
Total population estimates (all projects including Morven North and Morven South)						1,573	1,600	1,888
Displacement mortality	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				5	5	6
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				14	14	17

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Annual mortality (birds/annum)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				15		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				46		
Change in baseline mortality (percentage point change)	NatureScot's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.072		
	NatureScot's approach	(3% breeding season mortality rate; 3% non-breeding seasons mortality rate)				0.215		

Table 5.158: Mean-peak population estimates for kittiwake at the Troup, Pennan and Lion's Heads Special Protection Area for projects considered in-combination in relation to displacement (Applicant's approach)

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Tier 1 (Scenario 4)								
Aspen	0.06	0.53	0.90	0.02	0.03	4	1	2
Beatrice	0.03	0.53	0.90	0.02	0.03	13	15	20
Berwick Bank	0.01	0.92	0.90	0.02	0.03	88	241	392
Blyth Demo	0.01	0.53	0.90	0.02	0.03	0	9	0
Buchan	0.21	0.82	0.90	0.02	0.03	28	2	10
Caledonia North	0.16	0.53	0.90	0.02	0.03	55	7	2
Caledonia South	0.29	0.53	0.90	0.02	0.03	210	9	1

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Cenos	0.12	0.87	0.90	0.02	0.03	20	1	1
Dogger Bank A				0.02	0.03		33	198
Dogger Bank B				0.02	0.03		41	243
Dogger Bank South				0.02	0.03		112	78
Dogger Bank C				0.02	0.03		20	138
Sofia				0.02	0.03		27	190
Dudgeon				0.02	0.03		0	2
Dudgeon Extension				0.02	0.03		31	4
East Anglia One				0.02	0.03		16	8
East Anglia One North				0.02	0.03		4	6
East Anglia Three				0.02	0.03		32	20
East Anglia Two				0.02	0.03		5	10
Five Estuaries				0.02	0.03		5	16
Galloper				0.02	0.03		8	20
Green Volt	0.19	0.53	0.90	0.02	0.03	16	3	2
Hornsea Project One		0.74		0.02	0.03		461	34
Hornsea Project Two		0.86		0.02	0.03		31	60
Hornsea Project Three		0.88		0.02	0.03		52	62

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Hornsea Four				0.02	0.03		25	13
Humber Gateway				0.02	0.03		0	1
Inch Cape	0.00	0.53	0.90	0.02	0.03	0	46	24
Kincardine	0.02	0.95	0.90	0.02	0.03	11	14	2
Lincs				0.02	0.03		1	0
Moray East	0.25	0.92	0.90	0.02	0.03	404	3	4
Moray West	0.07	0.97	0.90	0.02	0.03	424	32	31
Morven North	0.06	0.87	0.90	0.02	0.03	110	9	4
Morven South	0.05	0.78	0.90	0.02	0.03	15	6	3
Muir Mhor	0.15	0.53	0.90	0.02	0.03	240	1	21
Neart na Gaoithe	0.00	0.82	0.90	0.02	0.03	0	43	4
Norfolk Boreas				0.02	0.03		55	30
Norfolk Vanguard				0.02	0.03		19	47
North Falls		0.59		0.02	0.03		10	24
Ossian	0.07	0.84	0.90	0.02	0.03	167	12	17
Outer Dowsing		0.77		0.02	0.03		21	32
Pentland	0.00	0.53	0.90	0.02	0.03	0	3	1
Race Bank				0.02	0.03		2	1
Salamander	0.16	0.69	0.90	0.02	0.03	379	2	3
SeaGreen Bravo	0.00	0.94	0.90	0.02	0.03	0	29	27
SeaGreen Alpha	0.00	0.94	0.90	0.02	0.03	0	69	32

Project	Seasonal apportioning values					Apportioned population estimates		
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding
	Colony	Immature	Sabbatical					
Sheringham Shoal Extension				0.02	0.03		3	2
Teesside				0.02	0.03		0	0
Thanet				0.02	0.03		1	0
Triton Knoll				0.02	0.03		6	8
West of Orkney	0.01	0.53	0.90	0.02	0.03	8	17	35
Total population estimates (all projects including Morven North and Morven South)						2,191	1,600	1,888
Displacement mortality	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				7	5	6
Annual mortality (birds/annum)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				17		
Change in baseline mortality (percentage point change)	Applicant's approach	(1% breeding season mortality rate; 1% non-breeding seasons mortality rate)				0.080		

5.5.4.70 The predicted impact of Morven South in-combination with other plans and projects on kittiwake at the Troup, Pennan and Lion's Heads SPA is presented in Table 5.159 for NatureScot's and the Applicant's approaches. The total in-combination impact apportioned to the kittiwake population at the Troup, Pennan and Lion's Heads SPA is 87 to 117 birds when applying NatureScot's approach and 44 birds when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

Table 5.159: Predicted in-combination annual mortality rate of kittiwake at the Troup, Pennan and Lion's Heads Special Protection Area resulting from combined collision and displacement impacts of Morven South in-combination with other plans and projects

Impact	Scenario	Annual impact (no. of birds)
Collision	NatureScot	71.7
	Applicant	26.7
Displacement	NatureScot	15.2 to 45.5
	Applicant	17.0
Total annual mortality (birds/annum)	NatureScot	86.9 to 117.3
	Applicant	43.7
Change in baseline mortality (percentage point change)	NatureScot	0.409 to 0.552
	Applicant	0.206

5.5.4.71 The PVA model conducted for kittiwake when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.794 to 0.844; (i.e. the population after 35 years, would be 15.7 to 20.6% smaller than the CPS with a 50th percentile value of 30.7 to 35.5 (Table 5.160)). In terms of the population size, this means that the median of the impacted population fell within the 31st to 36th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.994 to 0.995 which translates to a growth rate 0.5 to 0.6% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.4.72 When modelling the annual impact associated with the Applicant's approach for kittiwake, the comparable metrics are a median CGR of 0.998 and a median CPS of 0.918 (i.e. the population growth rate would be 0.2% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 8.2% smaller than the counterfactual population size). The 50th percentile value is 42.5, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.4.73 The population of kittiwake at Troup, Pennan and Lion's Heads SPA is currently below the population at designation (Table 5.8). The population of kittiwake at the Troup, Pennan and Lion's Heads SPA decreased between the Seabird 2000 and Seabirds Count national censuses and has continued to decrease since Seabirds Count (BTO et al, 2025).

5.5.4.74 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.75 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhor, Ossian and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.4.76 When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for an adverse effect. However, it should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.77 When the factors discussed in paragraphs 5.5.4.6 and 5.5.4.7 and the compensation required at other projects are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the recovery of the kittiwake population at the SPA would not be hindered. Impacts on kittiwake that undermine the conservation objectives of the at the Troup, Pennan and Lion's Heads SPA will not occur as a result of in-combination combined collision and displacement impacts. The potential effect of this impact on the relevant conservation objectives (as presented in Table 5.9) are discussed in Appendix A.

5.5.4.78 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the kittiwake population of the Troup, Pennan and Lion's Heads SPA in relation to combined collision and displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.160: Summary of population viability analysis results for in-combination combined collision and displacement impacts on the kittiwake feature of the Troup, Pennan and Lion's Heads Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	24,166	1.002	8.75	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	86.9	0.409	20,399	0.998	-8.15	0.995	0.844	35.5
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	117.3	0.552	19,211	0.996	-13.41	0.994	0.794	30.7
Applicant	43.9	0.206	22,216	1.000	0.22	0.998	0.918	42.5

Gannet

5.5.4.79 Collision risk estimates and displacement mortalities for gannet apportioned to each of the SPAs identified in paragraph 5.5.4.2 are presented on an annual basis in the following SPA-specific section. These values are taken from the relevant SPA sections in Section 5.5.2 (collision risk) and Section 5.5.3 (displacement) where these values are already presented. Where such values are not presented they are presented in the relevant SPA section below The annual apportioned impact predicted for each SPA is considered against the baseline mortality of the most recent SPA population (as provided in Table 5.8) with this expressed as a percentage point increase following NatureScot guidance

5.5.4.80 Where the apportioned impact is estimated to increase baseline mortality to the population of a SPA by greater than 0.02 percentage points further assessment, including where relevant PVA, is subsequently carried out to further investigate the potential effect on the population of the relevant qualifying feature.(NatureScot, 2023h). Details of the PVA methodology are presented in Volume 2, Annex 3.2: RIAA: Population Viability Analysis.

Forth Islands Special Protection Area

5.5.4.81 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.161 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total combined collision and displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.4.82 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Forth Islands SPA in relation to combined collision and displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.161: Predicted annual mortality of gannet at the Forth Islands Special Protection Area resulting from combined collision and displacement impacts associated with the Morven Programme (Scenario 3)

Project	Impact	Annual impact (no. of birds)
NatureScot's approach		
Morven South	Collision	5.6
	Displacement	1.4 to 4.1
Morven North	Collision	4.4
	Displacement	3.1 to 9.2
Total annual mortality (birds/annum)		14.4 to 23.2
Change in baseline mortality (percentage point change)		0.010 to 0.015
Applicant's approach		
Morven South	Collision	2.6
	Displacement	2.1
Morven North	Collision	2.3
	Displacement	4.8
Total annual mortality (birds/annum)		11.9
Change in baseline mortality (percentage point change)		0.008

5.5.4.83 The predicted impact of Morven South in-combination with other plans and projects on gannet at the Forth Islands SPA is presented in Table 5.162 for NatureScot's and the Applicant's approaches. The total in-combination impact apportioned to the gannet population at the Forth Islands SPA is 439 to 676 birds when applying NatureScot's approach and 332 birds when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

Table 5.162: Predicted in-combination annual mortality rate of gannet at the Forth Islands Special Protection Area resulting from combined collision and displacement impacts of Morven South in-combination with other plans and projects

Impact	Scenario	Annual impact (no. of birds)
Collision	NatureScot	320.5
	Applicant	180.2
Displacement	NatureScot	118.3 to 355.0
	Applicant	151.7
Total annual mortality (birds/annum)	NatureScot	438.8 to 675.5
	Applicant	331.9
Change in baseline mortality (percentage point change)	NatureScot	0.292 to 0.449
	Applicant	0.221

5.5.4.84 The current population at the SPA is above the population at designation (Table 5.8). The population of gannet at the Forth Islands SPA increased between the Seabird 2000 and Seabirds Count national censuses but has decreased since Seabirds Count, primarily due to HPAI (BTO *et al*, 2025; Burton *et al*, 2025).

5.5.4.85 The predicted combined in-combination impact on gannet at the Forth Islands SPA is presented in Table 5.131 when applying both NatureScot's advocated displacement and mortality rates and collision parameters and the Applicant's displacement and mortality rates. The total in-combination impact apportioned to the gannet population at the Forth Islands SPA is 453 to 699 birds/annum when applying NatureScot's approach and 344 birds/annum when applying the Applicant's approach. This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

5.5.4.86 The PVA model conducted for gannet when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.831 to 0.886; (i.e. the population after 35 years, would be 11.4 to 16.9% smaller than the CPS with a 50th percentile value of 23.6 to 32.0 (Table 5.163)). In terms of the population size, this means that the median of the impacted population fell within the 24th to 32nd percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.995 to 0.997 which translates to a growth rate 0.3 to 0.5% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.4.87 When modelling the annual impact associated with the Applicant's approach for gannet, the comparable metrics are a median CGR of 0.997 and a median CPS of 0.913 (i.e. the population growth rate would be 0.3% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 8.7% smaller than the counterfactual population size). The 50th percentile value is 36.7, within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.4.88 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.89 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank, Caledonia North, Caledonia South, Cenos, Green Volt, Muir Mhor, Ossian, Salamander and West of Orkney. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.4.90 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI.

5.5.4.91 When considered alongside other factors discussed in paragraphs 5.5.4.6 and 5.5.4.7 and the compensation required at other projects are taken into account it is considered that impacts on gannet that undermine the conservation objectives of the Forth Islands SPA will therefore not occur as a result of in-combination combined collision and displacement impacts.

5.5.4.92 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Forth Islands SPA in relation to combined collision and displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.163: Summary of population viability analysis results for in-combination combined collision and displacement impacts on the gannet feature of the Forth Islands Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
In-combination (Scenario 4)								
Baseline	-	-	304,843	1.012	53.73	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	438.8	0.292	270,234	1.009	36.29	0.997	0.886	32.0
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	675.5	0.449	253,315	1.007	27.71	0.995	0.831	23.6
Applicant	331.9	0.221	278,798	1.010	40.31	0.997	0.913	36.7

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5.5.4.93 The predicted impact from the Morven Programme (Scenario 3) is presented in Table 5.164 for both NatureScot's and the Applicant's approach. The predicted impact under both approaches remains below the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h). Additional analysis including PVA modelling is therefore not required. It can therefore be concluded that the total combined collision and displacement impact associated with the Morven Programme (Scenario 3) will not undermine the conservation objectives for the SPA.

5.5.4.94 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Hermaness, Saxa Vord and Valla Field SPA in relation to combined collision and displacement impacts associated with the Morven Programme (Scenario 3).

Table 5.164: Predicted annual mortality of gannet at the Hermaness, Saxa Vord and Valla Field Special Protection Area resulting from combined collision and displacement impacts associated with the Morven Programme (Scenario 3)

Project	Impact	Annual impact (no. of birds)
NatureScot's approach		
Morven South	Collision	0.0
	Displacement	0.1 to 0.3
Morven North	Collision	0.1
	Displacement	0.2 to 0.7
Total annual mortality (birds/annum)		0.5 to 1.1
Change in baseline mortality (percentage point change)		0.001 to 0.002
Applicant's approach		
Morven South	Collision	0.0
	Displacement	0.1
Morven North	Collision	0.1
	Displacement	0.2
Total annual mortality (birds/annum)		0.4
Change in baseline mortality (percentage point change)		0.001

5.5.4.95 The project alone collision risk impact predicted for gannet at the Hermaness, Saxa Vord and Valla Field SPA for Morven South did not surpass the 0.2 birds/annum threshold, as defined by NatureScot to identify those features to progress to an in-combination assessment. This SPA was therefore not included in Section 5.5.2, which assessed the in-combination collision impact in isolation for gannet. The predicted in-combination collision impact on gannet at the Hermaness, Saxa Vord and Valla Field SPA is therefore presented in Table 5.166 for NatureScot's approach and Table 5.167 for the Applicant's approach.

5.5.4.96 The predicted impact of Morven South in-combination with other plans and projects on gannet at the Hermaness, Saxa Vord and Valla Field SPA is presented in Table 5.165 for NatureScot's and the Applicant's approaches. The total in-combination impact apportioned to the gannet population at the Hermaness, Saxa Vord and Valla Field SPA is 48 to 96 birds when applying NatureScot's approach and 44 birds when applying the Applicant's approach.

This magnitude of impact exceeds the 0.02 percentage point increase threshold as defined by NatureScot (NatureScot, 2023h) and therefore additional assessment is required.

Table 5.165: Predicted in-combination annual mortality rate of gannet at the Hermaness, Saxa Vord and Valla Field Special Protection Area resulting from combined collision and displacement impacts of Morven South in-combination with other plans and projects

Impact	Scenario	Annual impact (no. of birds)
Collision	NatureScot	24.1
	Applicant	19.5
Displacement	NatureScot	23.8 to 71.4
	Applicant	24.0
Total annual mortality (birds/annum)	NatureScot	47.9 to 95.5
	Applicant	43.5
Change in baseline mortality (percentage point change)	NatureScot	0.081 to 0.162
	Applicant	0.074

5.5.4.97 The PVA model conducted for gannet when applying the annual season impact calculated using NatureScot's parameters indicates a median CPS of 0.935 to 0.967; (i.e. the population after 35 years, would be 3.3 to 6.5% smaller than the CPS with a 50th percentile value of 38.9 to 44.9 (Table 5.168)). In terms of the population size, this means that the median of the impacted population fell within the 40th to 44th percentile of the unimpacted population (a value of 50 would indicate that they are the same). This suggests that the impacted scenario is still well within the margin of error of the non-impacted scenario. However, as stated the CGR is considered a more robust metric compared to the CPS in this analysis due to the models being conducted with density independence, in line with NatureScot (2023h) guidance. The PVA model predicted a median CGR of 0.999 to 0.999 which translates to a growth rate 0.1 to 0.1% smaller than the counterfactual (unimpacted) growth rate. Such a decrease would be undetectable against natural fluctuations in the growth rate currently seen in the regional population.

5.5.4.98 When modelling the annual impact associated with the Applicant's approach for gannet, the comparable metrics are a median CGR of 0.999 and a median CPS of 0.970 (i.e. the population growth rate would be 0.1% smaller than the counterfactual (unimpacted) growth rate leading to a population that is, after 35 years, 3.0% smaller than the counterfactual population size). The 50th percentile value is 45.0, well within the margin of error of the non-impacted scenario. As concluded above, such a decrease would only result in a slight reduction in the growth rate currently seen in the regional population and would therefore be undetectable against natural population fluctuations.

5.5.4.99 The current population at the SPA is above the population at designation (Table 5.8). The population of gannet at the Hermaness, Saxa Vord and Valla Field SPA increased between the Seabird 2000 and Seabirds Count national censuses but has decreased since Seabirds Count, presumably due to HPAI (Lane *et al*, 2024,BTO *et al*, 2025).

5.5.4.100 It should be noted that there are a number of uncertainties associated with the PVA modelling that result in an over-estimation of the associated impact. These are discussed in paragraph 5.5.4.6. In addition, collision risk estimates under both scenarios are considered to be over-estimates due to the factors outlined in paragraph 5.5.4.7.

5.5.4.101 For a number of recent projects, it has been concluded that the predicted in-combination impact is at a magnitude that represents an AEOI of the SPA. As a result these projects have been required to submit derogation cases which include compensation measures. This is applicable to Berwick Bank and Salamander. The proposed compensatory measures will compensate for the residual effects from these projects that would otherwise contribute to an in-combination effect with Morven South. The impacts associated with these projects should theoretically be excluded from the assessments presented above, leading to reduced impact magnitudes and improved PVA metrics.

5.5.4.102 The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI.

5.5.4.103 When considered alongside other factors discussed in paragraphs 5.5.4.6 and 5.5.4.7 and the compensation required at other projects are taken into account it is considered that impacts on gannet that undermine the conservation objectives of the Hermaness, Saxa Vord and Valla Field SPA will therefore not occur as a result of in-combination combined collision and displacement impacts.

5.5.4.104 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI on the gannet population of the Hermaness, Saxa Vord and Valla Field SPA in relation to combined collision and displacement impacts associated with Morven South in-combination with other plans and projects.

Table 5.166: Predicted in-combination annual mortality rate of gannet at the Hermaness, Saxa Vord and Valla Field Special Protection Area resulting from collision risk impacts (NatureScot's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Tier 1 (Scenario 4)									
Aberdeen	0.00	0.55	0.90	0.09	0.14	0.0	0.1	0.0	0.1
Aspen	0.04	0.55	0.90	0.09	0.14	0.6	0.1	0.1	0.8
Beatrice	0.06	0.55	0.90	0.09	0.14	2.5	0.4	0.3	3.3
Berwick Bank	0.01	0.55	0.90	0.09	0.14	0.5	0.3	0.1	0.9
Blyth Demo				0.09	0.14		0.0	0.1	0.1
Buchan	0.07	0.55	0.90	0.09	0.14	0.2	0.0	0.0	0.2
Caledonia North	0.04	0.55	0.90	0.09	0.14	0.2	0.0	0.0	0.2
Caledonia South	0.03	0.55	0.90	0.09	0.14	0.3	0.0	0.0	0.4
Cenos	0.06	0.55	0.90	0.09	0.14	1.0	0.1	0.0	1.1
Dogger Bank A + B				0.09	0.14		0.1	0.1	0.2
Dogger Bank South				0.09	0.14		1.1	0.3	1.3
Dogger Bank C + Sofia				0.09	0.14		0.1	0.2	0.3
Dudgeon				0.09	0.14		0.5	0.3	0.9
Dudgeon Extension				0.09	0.14		0.0	0.0	0.0
East Anglia One				0.09	0.14		2.3	0.2	2.5

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
East Anglia One North				0.09	0.14		0.2	0.1	0.3
East Anglia Three				0.09	0.14		0.6	0.3	0.8
East Anglia Two				0.09	0.14		0.5	0.1	0.6
Five Estuaries				0.09	0.14		0.2	0.0	0.2
Galloper		0.55	0.90	0.09	0.14		0.4	0.3	0.7
Green Volt	0.05	0.55	0.90	0.09	0.14	0.5	0.0	0.1	0.6
Hornsea Project One				0.09	0.14		0.1	0.1	0.2
Hornsea Project Two				0.09	0.14		0.2	0.1	0.3
Hornsea Project Three				0.09	0.14		0.1	0.1	0.2
Hornsea Four				0.09	0.14		0.1	0.1	0.1
Humber Gateway				0.09	0.14		0.0	0.1	0.1
Inch Cape	0.00	0.55	0.90	0.09	0.14	0.0	0.1	0.1	0.3
Kentish Flats Extension				0.09	0.14		0.0	0.0	0.0
Kincardine	0.00	0.55	0.90	0.09	0.14	0.0	0.0	0.0	0.0
Lincs				0.09	0.14		0.0	0.0	0.1
Moray East	0.00	0.55	0.90	0.09	0.14	0.0	0.1	0.1	0.2

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Moray West	0.00	0.55	0.90	0.09	0.14	0.0	0.0	0.0	0.0
Morven North	0.00	0.55	0.90	0.09	0.14	0.1	0.1	0.0	0.2
Morven South	0.00	0.55	0.90	0.09	0.14	0.1	0.0	0.0	0.2
Muir Mhor	0.05	0.55	0.90	0.09	0.14	0.4	0.1	0.0	0.5
Neart na Gaoithe	0.00	0.55	0.90	0.09	0.14	0.0	0.2	0.3	0.4
Norfolk Boreas				0.09	0.14		0.2	0.1	0.3
Norfolk Vanguard				0.09	0.14		0.3	0.2	0.5
North Falls				0.09	0.14		0.1	0.1	0.2
Ossian	0.03	0.55	0.90	0.09	0.14	0.8	0.1	0.0	0.9
Outer Dowsing				0.09	0.14		0.0	0.0	0.1
Pentland	0.04	0.55	0.90	0.02	0.02	0.1	0.0	0.0	0.1
Race Bank				0.09	0.14		0.1	0.1	0.2
Rampion		0.55	0.90	0.09	0.14		0.2	0.1	0.2
Rampion 2				0.09	0.14		0.1	0.1	0.1
Salamander	0.04	0.55	0.90	0.09	0.14	0.2	0.0	0.0	0.2
SeaGreen (Alpha & Bravo)	0.00	0.55	0.90	0.09	0.14	0.0	0.4	0.7	1.1
Sheringham Shoal Extension				0.09	0.14		0.0	0.0	0.0
Teesside				0.09	0.14		0.0	0.0	0.0

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Thanet				0.09	0.14		0.0	0.0	0.0
Triton Knoll				0.09	0.14		0.9	0.7	1.6
West of Orkney	0.00	0.55	0.90	0.02	0.02	0.0	0.0	0.0	0.0
Westermost Rough				0.09	0.14		0.0	0.0	0.0
Total annual mortality (birds/annum)									24.1

Table 5.167: Predicted in-combination annual mortality rate of gannet at the Hermaness, Saxa Vord and Valla Field Special Protection Area resulting from collision risk impacts (Applicant's approach)

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Tier 1 (Scenario 4)									
Aberdeen	0.00	0.55	0.90	0.09	0.14	0.0	0.1	0.0	0.1
Aspen	0.04	0.55	0.90	0.09	0.14	0.6	0.1	0.1	0.8
Beatrice	0.06	0.55	0.90	0.09	0.14	0.8	0.4	0.3	1.5
Berwick Bank	0.01	0.99	0.90	0.09	0.14	0.2	0.3	0.1	0.6
Blyth Demo				0.09	0.14		0.0	0.1	0.1
Buchan	0.07	0.91	0.90	0.09	0.14	0.1	0.0	0.0	0.1
Caledonia North	0.04	0.55	0.90	0.09	0.14	0.2	0.0	0.0	0.2
Caledonia South	0.03	0.55	0.90	0.09	0.14	0.3	0.0	0.0	0.4

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Cenos	0.06	0.98	0.90	0.09	0.14	0.3	0.1	0.0	0.4
Dogger Bank A + B				0.09	0.14		0.1	0.1	0.2
Dogger Bank South				0.09	0.14		1.1	0.3	1.3
Dogger Bank C + Sofia				0.09	0.14		0.1	0.2	0.3
Dudgeon				0.09	0.14		0.5	0.3	0.9
Dudgeon Extension				0.09	0.14		0.0	0.0	0.0
East Anglia One				0.09	0.14		2.3	0.2	2.5
East Anglia One North				0.09	0.14		0.2	0.1	0.3
East Anglia Three				0.09	0.14		0.6	0.3	0.8
East Anglia Two				0.09	0.14		0.5	0.1	0.6
Five Estuaries				0.09	0.14		0.2	0.0	0.2
Galloper				0.09	0.14		0.4	0.3	0.7
Green Volt	0.05	0.55	0.90	0.09	0.14	0.2	0.0	0.1	0.2
Hornsea Project One				0.09	0.14		0.1	0.1	0.2
Hornsea Project Two				0.09	0.14		0.2	0.1	0.3

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Hornsea Project Three				0.09	0.14		0.1	0.1	0.2
Hornsea Four				0.09	0.14		0.1	0.1	0.1
Humber Gateway				0.09	0.14		0.0	0.1	0.1
Inch Cape	0.00	0.55	0.90	0.09	0.14	0.0	0.1	0.1	0.3
Kentish Flats Extension				0.09	0.14		0.0	0.0	0.0
Kincardine	0.00	0.79	0.90	0.09	0.14	0.0	0.0	0.0	0.0
Lincs				0.09	0.14		0.0	0.0	0.1
Moray East	0.00	0.55	0.90	0.09	0.14	0.0	0.1	0.1	0.2
Moray West	0.00	0.55	0.90	0.09	0.14	0.0	0.0	0.0	0.0
Morven North	0.00	0.96	0.90	0.09	0.14	0.0	0.1	0.0	0.1
Morven South	0.00	0.95	0.90	0.09	0.14	0.0	0.0	0.0	0.0
Muir Mhor	0.05	0.55	0.90	0.09	0.14	0.1	0.1	0.0	0.2
Neart na Gaoithe	0.00	0.98	0.90	0.09	0.14	0.0	0.2	0.3	0.4
Norfolk Boreas				0.09	0.14		0.2	0.1	0.3
Norfolk Vanguard				0.09	0.14		0.3	0.2	0.5
North Falls				0.09	0.14		0.1	0.1	0.2
Ossian	0.03	0.98	0.90	0.09	0.14	0.2	0.1	0.0	0.3
Outer Dowsing				0.09	0.14		0.0	0.0	0.1

Project	Seasonal apportioning values					Apportioned collision risk estimates			Annual
	Breeding			Post-breeding	Pre-breeding	Breeding	Post-breeding	Pre-breeding	
	Colony	Immatures	Sabbaticals						
Pentland	0.04	0.55	0.90	0.02	0.02	0.0	0.0	0.0	0.0
Race Bank				0.09	0.14		0.1	0.1	0.2
Rampion				0.09	0.14		0.2	0.1	0.2
Rampion 2				0.09	0.14		0.1	0.1	0.1
Salamander	0.04	0.94	0.90	0.09	0.14	0.1	0.0	0.0	0.1
SeaGreen (Alpha & Bravo)	0.00	0.97	0.90	0.09	0.14	0.0	0.4	0.7	1.1
Sheringham Shoal Extension				0.09	0.14		0.0	0.0	0.0
Teesside				0.09	0.14		0.0	0.0	0.0
Thanet				0.09	0.14		0.0	0.0	0.0
Triton Knoll				0.09	0.14		0.9	0.7	1.6
West of Orkney	0.00	0.55	0.90	0.02	0.02	0.0	0.0	0.0	0.0
Westermost Rough				0.09	0.14		0.0	0.0	0.0
Total **annual mortality (birds/annum)**									19.5

Table 5.168: Summary of population viability analysis results for in-combination combined collision and displacement impacts on the gannet feature of the Hermaness, Saxa Vord and Valla Field Special Protection Area after 35 years

Approach	Predicted Mortality (no. of birds)	Increase in baseline mortality (percentage point change)	Median population size (no. of birds)	Growth Rate (Annual GR)	Change in population (%)	Median CGR	Median CPS	Quantile – unimpacted: 50%impacted
Baseline	-	-	109,323	1.012	53.17	-	-	-
NatureScot (1% breeding season mortality rate; 1% non-breeding season mortality rate)	47.9	0.081	105,815	1.011	48.17	0.999	0.963	44.9
NatureScot (3% breeding season mortality rate; 3% non-breeding season mortality rate)	95.5	0.162	102,324	1.010	43.19	0.998	0.935	38.9
Applicant	43.5	0.074	105,920	1.011	48.44	0.999	0.970	45.0

Outer Firth of Forth and St Andrew's Bay Complex SPA

5.5.4.105 Of those SPAs for which in-combination combined collision and displacement impacts have been assessed, the Outer Firth of Forth and St Andrew's Bay Complex SPA supports kittiwake from the St Abb's Head to Fast Castle SPA, the Fowlsheugh SPA, the Buchan Ness to Collieston Coast SPA and the Troup, Pennan and Lion's Heads SPA and gannet from the Forth Islands SPA.

5.5.4.106 Conclusions of no AEOI have been reached for all of the SPAs for which in-combination combined collision and displacement impacts have been considered for kittiwake and gannet from SPAs from which birds are supported by the Outer Firth of Forth and St Andrew's Bay Complex SPA with the exception of kittiwake at the St Abb's Head to Fast Castle SPA.

5.5.4.107 As the Outer Firth of Forth and St Andrew's Bay Complex SPA supports kittiwake from this SPA an AEOI is also concluded for the Outer Firth of Forth and St Andrew's Bay Complex SPA in relation to in-combination combined collision and displacement impacts on kittiwake.

5.5.4.108 It is therefore concluded that there is the potential for an AEOI on the kittiwake population of the Outer Firth of Forth and St Andrew's Bay Complex SPA as a result of in-combination combined collision and displacement impacts associated with Morven South and other plans and projects.

Conclusion

5.5.4.109 Potential effects from in-combination combined collision and displacement impacts on the relevant conservation objectives of each SPA (as presented in Table 5.9) are discussed in Appendix A. Impacts that undermine the conservation objectives will not occur as a result of in-combination combined collision and displacement impacts for the following SPAs and relevant offshore ornithological qualifying features:

- Kittiwake at the Buchan Ness to Collieston Coast SPA;
- Kittiwake at the East Caithness Cliffs SPA;
- Kittiwake at the Flamborough and Filey Coast SPA;
- Kittiwake at the Fowlsheugh SPA;
- Kittiwake at the Troup, Pennan and Lion's Heads SPA;
- Gannet at the Forth Islands SPA;
- Gannet at the Hermaness, Saxa Vord and Valla Field SPA.

5.5.4.110 Therefore, it can be concluded beyond reasonable scientific doubt that there will be no AEOI of any of these SPAs in relation to in-combination combined collision and displacement impacts associated with Morven North in-combination with other plans and projects. For breeding seabird assemblage features the conclusions reached for individual qualifying features and named qualifiers are considered equally applicable to the assemblage features.

5.5.4.111 Impacts that undermine the conservation objectives are considered likely to occur as a result of in-combination combined collision and displacementimpacts on the kittiwake and breeding seabird assemblage qualifying features of the St Abb's Head to Fast Castle SPA. This is also considered applicable to kittiwake as a qualifying feature of the Outer Firth of Forth and St Andrew's Bay Complex SPA as this SPA supports kittiwake from the St Abb's Head to Fast Castle SPA.

5.5.4.112 Therefore, it can be concluded beyond reasonable scientific doubt that there will be an AEOI on kittiwake and breeding seabird assemblage features of the St Abb's Head to Fast Castle SPA and Outer Firth of Forth and St Andrew's Bay Complex SPA in relation to in-combination combined collision and displacement impacts associated with Morven North in-combination with other plans and projects.

6 Summary

6.1.1.1 A summary of the assessments presented in this RIAA is provided in the sections below. Table 6.1 presents the conclusions of AEOIs on Integrity in relation to Morven South alone and in-combination with other plans and projects.

6.1.1.2 Based on the information presented within this RIAA Part 3, it is considered that Morven South alone will not lead to an AEOI on any of the 21 SPAs considered. However, a potential AEOI was identified at four SPAs and for three qualifying species as a result of disturbance and displacement and/or collision during the operation and maintenance phase of Morven South in-combination with other plans and projects:

- Forth Islands SPA;
  - guillemot and the breeding seabird assemblage (with regards to guillemot);
- St Abb's Head to Fast Castle SPA
  - kittiwake, razorbill and the breeding seabird assemblage (with regards to kittiwake and razorbill);
- Troup, Pennan and Lion's Heads SPA;
  - guillemot and the breeding seabird assemblage (with regards to guillemot);
- Outer Firth of Forth and St Andrew's Bay Complex SPA;
  - kittiwake, guillemot and the breeding seabird assemblage (with regards to kittiwake and guillemot);

Table 6.1: Summary of conclusions for the assessment of adverse effects on Special Protection Area and Ramsar site integrity for Morven South alone and in-combination

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
UK9020316	Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	**AEOI of the site due to in-combination collision impacts on kittiwake at the St Abb's Head to Fast Castle SPA**
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	**AEOI of the site due to in-combination combined collision and displacement impacts on kittiwake at the St Abb's Head to Fast Castle SPA**
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Herring gull (non-breeding)	Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
		Guillemot	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	**AEOI of the site due to in-combination displacement impacts on guillemot at the Forth Islands SPA**

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Razorbill	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Puffin	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Gannet	Operation and maintenance	Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	**AEOI of the site due to in-combination displacement impacts on kittiwake at the St Abb's Head to Fast Castle SPA**
				Displacement	No AEOI of the site	**AEOI of the site due to in-combination displacement impacts on the guillemot feature of the Forth Islands SPA**
				Combined collision and displacement	No AEOI of the site	**AEOI of the site due to in-combination combined collision and displacement impacts on kittiwake at the St Abb's Head to Fast Castle SPA**

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Red-throated diver	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Slavonian grebe	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Eider	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Shag	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Long-tailed duck	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Common scoter	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Velvet scoter	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Goldeneye	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Red-breasted merganser	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Non-breeding waterfowl assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9002271	Fowlsheugh SPA	Herring gull	Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
		Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Guillemot	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Razorbill	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9020325	Northumberland Marine SPA	Fulmar (*Fulmarus glacialis*)	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Puffin	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
		Razorbill	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No AEOI of the site

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
UK9002281	Buchan Ness to Collieston Coast SPA	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Guillemot	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9006021	Farne Islands SPA	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Puffin	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9004173	St Abb's Head to Fast Castle SPA	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	**AEOI of the site**
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	**AEOI of the site**
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
		Guillemot (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Razorbill	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	**AEOI of the site**
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Collision	No AEOI of the site	**AEOI of the site due to in-combination collision impacts on kittiwake**
				Displacement	No AEOI of the site	**AEOI of the site due to in-combination displacement impacts on razorbill**
				Combined collision and displacement	No AEOI of the site	**AEOI of the site due to in-combination combined collision and displacement impacts on kittiwake**
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
UK9004171	Forth Islands SPA	Gannet	Operation and maintenance	Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Puffin	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Guillemot (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Displacement	No AEOI of the site	**AEOI of the site**
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Razorbill	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	**AEOI of the site due to in-combination displacement impacts on guillemot**
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9006031	Coquet Island SPA	Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Puffin	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
UK9002471	Troup, Pennan and Lion's Heads SPA	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No AEOI of the site

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Guillemot (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	**AEOI of the site**

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	**AEOI of the site due to in-combination displacement impacts on the guillemot**
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
UK9001182	East Caithness Cliffs SPA	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Razorbill (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9006101	Flamborough and Filey Coast SPA	Gannet (non-breeding seasons only)	Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Displacement	No AEOI of the site	No material contribution from Morven South, in-

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance			combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Puffin	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Razorbill (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No AEOI of the site
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9001181	North Caithness Cliffs SPA	Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Puffin	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
UK9002291	Copinsay SPA	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9002292	Hoy SPA	Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9002441	Fair Isle SPA	Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Gannet (non-breeding seasons only)	Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Puffin (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9002101	West Westray SPA	Kittiwake	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
						combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9002081	Noss SPA	Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Gannet	Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Breeding seabird assemblage	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Combined collision and displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
UK9002061	Foula SPA	Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
		Puffin (non-breeding seasons only)				contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
UK9002051	Hermaness, Saxa Vord and Valla Field SPA	Fulmar	Construction	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Operation and maintenance	Displacement	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
			Decommissioning	Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Gannet	Operation and maintenance	Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
		Puffin (non-breeding seasons only)	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
		Breeding seabird assemblage	Construction	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Operation and maintenance	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Collision	No AEOI of the site	No material contribution from Morven South, in-combination assessment not required
				Displacement	No AEOI of the site	No AEOI of the site
				Combined collision and displacement	No AEOI of the site	No AEOI of the site
				Barrier effects	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact

Site ID	Site name	Relevant qualifying features	Project phase	Potential impact	Conclusion for the assessment on Morven South alone	Conclusion for the assessment on Morven South in-combination with other plans and projects
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
			Decommissioning	Direct temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required
				Attraction to light	No AEOI of the site	Negligible contribution from Morven South to any existing in-combination impact
				Changes in prey availability due to temporary habitat loss/disturbance	No AEOI of the site	Localised and temporary in nature, no material contribution from Morven North, in-combination assessment not required

7 References

Arcos, J., & Oro, D. (2002). Significance of nocturnal purse seine fisheries for seabirds: a case study off the Ebro Delta (NW Mediterranean). Marine Biology, 141(2), 277-286.

BirdLife International (2023). Seabird Tracking Database. Available at: http://seabirdtracking.org/. Accessed June 2024.

Bogdanova, M. I., McKnight, J. C., Butler, A., Newell, M., Gunn, C., Daunt, F., & Hastie, G. D. (2022). Development of a novel physiology tag to measure oxygen consumption in free-ranging seabirds. Marine Scotland Science.

Bradbury, G., Trinder, M., Furness, B., Banks, A. N., Caldow, R. W., & Hume, D. (2014). Mapping seabird sensitivity to offshore wind farms. PloS one, 9(9), e106366.

BTO, JNCC, RSPB, Natural England, Natural Resources Wales and NatureScot, (2025). Seabird Monitoring Programme. [Online]. Available at: https://app.bto.org/seabirds/public/index.jsp.

Burnell, D., Perkins, A.J. Newton, S.F., Bolton, M., Tiernet, T.D. & Dunn, T.E. (2023). Seabirds Count: a census of breeding seabirds in Britain and Ireland (2015-2021). Lynx Nature Books, Barcelona.

Butler, A., Carroll, M., Searle, K., Bolton, M., Waggitt, J., Evans, P., Rehfisch, M., Goddard, B., Brewer, M., Burthe, S. and Daunt, F. (2020). Attributing seabirds at sea to appropriate breeding colonies and populations (CR/2015/18). Scottish Marine and Freshwater Science Vol 11 No 8, 140pp. DOI: 10.7489/2006-1

Caneco, B. and Humphries, G. (2022). HiDef Aerial Surveying stochLAB. Available online at: https://www.github.com/HiDef-Aerial-Surveying/stochLAB.

Deakin, Z., Cook, A., Daunt, F., McCluskie, A., Morley, N., Witcutt, E., ... & Bolton, M. (2022). A review to inform the assessment of the risk of collision and displacement in petrels and shearwaters from offshore wind developments in Scotland.

Dierschke, V., Furness, R.W. & Garthe, S. (2016) Seabirds and offshore wind farms in European waters: avoidance and attraction. Biological Conservation, 202, 59-68.

Dupuis, B., Amélineau, F., Tarroux, A., Bjørnstad, O., Bråthen, V. S., Danielsen, J., ... & Strøm, H. (2021). Light-level geolocators reveal spatial variations in interactions between northern fulmars and fisheries. Marine Ecology Progress Series, 676, 159-172.

Furness, R. W., Wade, H. M., & Masden, E. A. (2013). Assessing vulnerability of marine bird populations to offshore wind farms. Journal of Environmental Management, 119, 56–66.

Furness, R.W. (2015). Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Reports, Number 164.

Furness, R. W., Garthe, S., Trinder, M., Matthiopoulos, J., Wanless, S., & Jeglinski, J. (2018). Nocturnal flight activity of northern gannets Morus bassanus and implications for modelling collision risk at offshore wind farms. Environmental Impact Assessment Review, 73, 1-6.

Harris, M. P., Wanless, S., & Barton, T. R. (2012). The impact of climate change on seabird populations: A review. Ibis, 154(3), 493–500.

Horswill, C., & Robinson, R. A. (2015). Review of Seabird Demographic Rates and Density Dependence. JNCC Report no. 552.

JNCC, Natural Resources Wales, Department of Agriculture, Environment and Rural Affairs/Northern Ireland Environment Agency, Natural England and Scottish Natural Heritage, (2022). Joint SNCB Interim Displacement Advice Note. Available at: https://data.jncc.gov.uk/data/9aecb87c-80c5-4cfb-9102-39f0228dcc9a/joint-sncb-interim-displacement-advice-note-2022.pdf

JNCC, Natural England, Natural Resources Wales, NatureScot. (2024b) Joint advice note from the Statutory Nature Conservation Bodies (SNCBs) regarding bird collision risk modelling for offshore wind developments. JNCC, Peterborough. https://hub.jncc.gov.uk/assets/f7892820-0f84-4e96-9eff-168f93bd343d

Johnson, D., Searle, K., & Webb, A. (2014). Seabird sensitivity to offshore wind farms: A spatial analysis of collision risk and displacement. Marine Ecology Progress Series, 512, 1–15.

Marine Scotland (2024) National Marine Plan Interactive (Version 1.6.8.125). Available at: https://marinescotland.atkinsgeospatial.com/nmpi/. Accessed on: 23 April 2024.

Masden, E. A., Haydon, D. T., Fox, A. D., & Furness, R. W. (2010). Barriers to movement: modelling energetic costs of avoiding marine wind farms amongst breeding seabirds. Marine Pollution Bulletin, 60(7), 1085-1091.

Montevecchi, W. A. (2006). Influences of artificial light on marine birds. Ecological consequences of artificial night lighting, 94-113.

Natural England (2025). Natural England Conservation Advice for Protected Sites. Northumberland Marine SPA. [Online]. Available at: https://designatedsites.naturalengland.org.uk/ConservationAdvice.aspx?SiteCode=UK9020325&SiteName=northumberland&SiteNameDisplay=Northumberland%20Marine%20SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=7&SiteNameDisplay=Northumberland%20Marine%20SPA (Accessed December 2025).

Natural England (2015). Departmental brief: Northumberland Marine potential Special Protection Area (pSPA). Available at: https://assets.publishing.service.gov.uk/media/5a818712e5274a2e8ab54786/northumberland-departmental-brief.pdf

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

NatureScot (2020) Short Guidance Note: Seasonal Periods for Birds in the Scottish Marine Environment. [Online]. Available at: https://www.nature.scot/sites/default/files/2020-10/Guidance%20note%20-%20Seasonal%20definitions%20for%20birds%20in%20the%20Scottish%20Marine%20Environment.pdf

NatureScot (2022). Conservation and Management Advice: Outer Firth of Forth and St Andrews Bay Complex SPA. Available at: https://www.nature.scot/sites/default/files/special-protection-area/10478/conservation-and-management-advice.pdf

NatureScot (2023a). Guidance Note 2: Guidance to support Offshore Wind Applications: Advice for Marine Ornithology Baseline Characterisation Surveys and Reporting. Available at: https://www.nature.scot/doc/guidance-note-2-guidance-support-offshore-wind-applications-advice-marine-ornithology-baseline

NatureScot (2023b). Guidance Note 3: Guidance to support Offshore Wind applications: Marine Birds – Identifying theoretical connectivity with breeding site Special Protection Areas using breeding season foraging ranges. Available at: https://www.nature.scot/doc/guidance-note-3-guidance-support-offshore-wind-applications-marine-birds-identifying-theoretical

NatureScot (2023c). Guidance Note 4: Guidance to Support Offshore Wind Applications: Ornithology - Determining Connectivity of Marine Birds with Marine Special Protection Areas and Breeding Seabirds from Colony SPAs in the Non-Breeding Season. Available at: https://www.nature.scot/doc/guidance-note-4-guidance-support-offshore-wind-applications-ornithology-determining-connectivity

NatureScot (2023d). Guidance Note 5: Guidance to support Offshore Wind Applications: Marine Ornithology – Recommendations for Marine Bird Population Estimates. Available at: https://www.nature.scot/doc/guidance-note-5-guidance-support-offshore-wind-applications-recommendations-marine-bird-population

NatureScot (2023e). Guidance Note 6: Guidance to support Offshore Wind Applications: Marine Ornithology Impact Pathways for Offshore Wind Developments. Available at: https://www.nature.scot/doc/guidance-note-6-guidance-support-offshore-wind-applications-marine-ornithology-impact-pathways

NatureScot (2023f). Guidance Note 8: Guidance to support Offshore Wind applications: Marine Ornithology Advice for assessing the distributional responses, displacement and barrier effects of Marine birds. Available at: https://www.nature.scot/doc/guidance-note-8-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing

NatureScot (2023g). Guidance Note 10: Guidance to support Offshore Wind applications: Marine Ornithology Advice for apportioning impacts to breeding colonies. Available at: https://www.nature.scot/doc/guidance-note-10-guidance-support-offshore-wind-applications-marine-ornithology-advice-apportioning

NatureScot (2023h). Guidance Note 11: Guidance to support Offshore Wind Applications: Marine Ornithology - Recommendations for Seabird Population Viability Analysis (PVA). Available at: https://www.nature.scot/doc/guidance-note-11-guidance-support-offshore-wind-applications-marine-ornithology-recommendations

NatureScot (2023i). NatureScot Scientific Advisory Committee Sub-Group on Avian Influenza Report on the H5N1 outbreak in wild birds (2020-2023). Available at: https://www.nature.scot/doc/naturescot-scientific-advisory-committee-sub-group-avian-influenza-report-h5n1-outbreak-wild-birds

NatureScot (2025a). Guidance Note 1: Guidance to support Offshore Wind Applications: Marine Ornithology – Overview. Available at: https://www.nature.scot/doc/guidance-note-1-guidance-support-offshore-wind-applications-marine-ornithology-overview

NatureScot (2025b). Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology - Advice for assessing collision risk of marine birds. Available at: https://www.nature.scot/doc/guidance-note-7-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing

Ronconi, R. A., Allard, K. A., & Taylor, P. D. (2015). Bird interactions with offshore oil and gas platforms: Review of impacts and monitoring techniques. Journal of Environmental Management, 147, 34-45.

Searle, K. R., Daunt, F., & Wanless, S. (2019). Potential climate-driven changes to seabird demography: Implications for assessments of marine renewable energy development. Marine Ecology Progress Series, 690, 185–200.

Tremlett, C.J, Morely, N. and Wilson, L.J. (2024a). UK seabird colony counts in 2023 following the 2021-22 outbreak of Highly Pathogenic Avian Influenza. RSPB Research Report 76.

Tremlett, C. J., Cleasby, I. R., Bolton, M., & Wilson, L. J. (2024b). Declines in UK breeding populations of seabird species of conservation concern following the outbreak of high pathogenicity avian influenza (HPAI) in 2021–2022. Bird Study, 71(4), 293–310. https://doi.org/10.1080/00063657.2024.2438641

Wade, H. M., Masden, E. A., Jackson, A. C., & Furne`ss, R. W. (2016). Incorporating data uncertainty when estimating potential vulnerability of Scottish seabirds to marine renewable energy developments. Marine Policy, 70, 108-113.

Wakefield, E. D., Phillips, R. A., & Matthiopoulos, J. (2013). Habitat-mediated population limitation in seabirds: A quantitative assessment using GPS tracking data. Ecology, 94(1), 46–57.Woodward, I, Thaxter, C.B., Owen, E. and Cook, A.S.C.P. (2019) Desk-based revision of seabird foraging ranges used for HRA screening. BTO Report 724 for The Crown Estate.

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1 Assessment of potential adverse effects on integrity

1.1 Assessment of the adverse effects of Morven South alone

1.1.1 Direct temporary habitat loss/disturbance

Table 1.1: Conclusions against the conservation objectives of all Special Protection Areas from direct temporary habitat loss/disturbance during all Morven South phases

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrew's Complex SPA	Guillemot Razorbill Puffin Red-throated diver Slavonian grebe Eider Shag Long-tailed duck Common scoter Velvet scoter Goldeneye Red-breasted merganser	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Shag	2a The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure the qualifying feature has the ability to recover at the relevant SPA breeding colonies.	The impact magnitude predicted during all project phases on all features is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of	No AEOI
			Ensure the qualifying features within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure the qualifying feature can move safely between the site and important areas of functionally linked land outwith the site.	disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the Outer Firth of Forth and St Andrews Bay Complex SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
	Puffin Guillemot Razorbill		Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and nonbreeding seasons		No AEOI
			Ensure the qualifying feature can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
	Common eider Red-breasted merganser		Maintain the population of the qualifying feature at a stable or increasing trend relative to the site reference population.		No AEOI
			Ensure the qualifying feature can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
	Goldeneye Common scoter Long-tailed duck		Maintain the population of the qualifying feature at a stable or increasing trend relative to the site reference population.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Red-throated diver Slavonian grebe Velvet scoter				
	Puffin Guillemot Shag Herring gull Eider Goldeneye Common scoter Long-tailed duck Razorbill Red-breasted merganser Red-throated diver Slavonian grebe Velvet scoter	2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Fowlsheugh SPA	Guillemot Razorbill	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a The populations of the qualifying features are viable components of the Fowlsheugh SPA	Maintain the breeding population of the feature at a stable or increasing trend relative to the current site reference population.	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Fowlsheugh SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats.		No AEOI
Northumberland Marine SPA	Razorbill Puffin	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during all project phases on the feature is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for disturbance/habitat loss during all project phases to result in adverse effects on the habitats of the qualifying species. Therefore, disturbance/habitat loss associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Farne Islands SPA	Puffin	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features.		The impact magnitude predicted during all project phases on puffin is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		• The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for disturbance/habitat loss during all project phases to result in adverse effects on the habitats of the qualifying species. Therefore, disturbance/habitat loss associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
St Abb's Head to Fast Castle SPA	Razorbill	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of razorbill have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on razorbill is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure razorbill are not at significant risk from injury or mortality.		No AEOI
			Ensure razorbill can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure razorbill continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to razorbill and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for razorbill within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Forth Islands SPA	Razorbill Puffin	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population.	The impact magnitude predicted during all project phases on the feature is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur.	No AEOI
			Ensure the feature is not at significant risk from injury or		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			mortality during the breeding season.	Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Forth Islands SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained any increase in		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	the habitats of qualifying species rely from being maintained or restored.	
Coquet Island SPA	Puffin	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during all project phases on puffin is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for disturbance/habitat loss during all project phases to result in	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				adverse effects on the habitats of the qualifying species. Therefore, disturbance/habitat loss associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
East Caithness Cliffs SPA	Razorbill (non-breeding seasons only)	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of razorbills at a stable or increasing trend relative to the site reference population.	The impact magnitude predicted during all project phases on razorbill is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the	No AEOI
			Ensure razorbills are not at significant risk from injury or mortality.		No AEOI
			Ensure razorbills can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout	Ensure razorbills continue to have access to and can utilise all optimal habitats suitable for		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		the site by avoiding significant disturbance of the species.	all relevant aspects of their life cycles associated with the site.	conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to razorbills and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at East Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for razorbills within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Flamborough and Filey Coast SPA	Razorbill (non-breeding seasons only)	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:		The impact magnitude predicted during all project phases on the feature is considered to be negligible based on the distance between the SPA and Morven South and the restricted	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Puffin	• The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for disturbance/habitat loss during all project phases to result in adverse effects on the habitats of the qualifying species. Therefore, disturbance/habitat loss associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
North Caithness Cliffs SPA	Puffin	1. To ensure that the qualifying features of the North Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the North Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the North Caithness Cliffs SPA.	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on puffin is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal	No AEOI
			Ensure puffins are not at significant risk from injury or mortality.		No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Caithness Cliffs SPA.	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fair Isle SPA	Puffin (non-breeding seasons only)	1. To ensure that the qualifying features of the Fair Isle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fair Isle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fair Isle SPA.	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on puffin is considered to be negligible based on the distance between the SPA and Morven South and the restricted	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure puffins are not at significant risk from injury or mortality.	temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fair Isle SPA.	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			processes have the ability to recover.	and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Foula SPA	Puffin (non-breeding seasons only)	1. To ensure that the qualifying features of the Foula SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Foula SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Foula SPA.	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on puffin is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being	No AEOI
			Ensure puffins are not at significant risk from injury or mortality.		No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.	achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Foula SPA.	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hermaness, Saxa Vord and Valla Field SPA	Puffin (non-breeding seasons only)	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hermaness, Saxa Vord and Valla Field SPA.	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on puffin is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of disturbance/habitat loss significantly affecting the population of the species as a qualifying feature of the SPA. Disturbance/habitat loss during all project phases will therefore not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of disturbance/habitat loss during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for disturbance/habitat loss during all project phases to result in	No AEOI
			Ensure puffins are not at significant risk from injury or mortality.		No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				adverse effects on the habitats of the qualifying species. Therefore, disturbance/habitat loss associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hermaness, Saxa Vord and Valla Field SPA.	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for direct temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Direct temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

1.1.2 Changes in prey availability due to temporary habitat loss/disturbance

Table 1.2: Conclusions against the conservation objectives of all Special Protection Areas from changes in prey availability due to temporary habitat loss/disturbance during all Morven South phases

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake Guillemot Razorbill Puffin	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure breeding qualifying species have the ability to recover at the relevant SPA breeding colonies.	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting	No AEOI
	Kittiwake Guillemot Razorbill Puffin		Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.		
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce		

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			supporting habitats and/or prey, should be avoided.		
Fowlsheugh SPA	Kittiwake Guillemot Razorbill	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting	No AEOI
	Guillemot Razorbill		Maintain the breeding population of the feature at a stable or increasing trend relative to the current site reference population.		No AEOI
	Kittiwake Guillemot Razorbill		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout	Ensure the feature continues to have access to and can utilise all optimal habitats		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		the site by avoiding significant disturbance of the species.	suitable for all relevant aspects of their life cycles associated with the site.	processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fowlsheugh SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Northumberland Marine SPA	Kittiwake Razorbill Puffin	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving		The impact magnitude predicted during all project phases on the feature is considered to be negligible based on the distance between the SPA	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance significantly affecting the population of the species as a qualifying feature of the SPA. Changes in prey availability due to temporary habitat loss/disturbance during all project phases will therefore not prevent the conservation objectives from being achieved for the species as a viable component of the SPA. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases to result in adverse effects on the habitats of the qualifying species. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting	

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				processes on which the habitats of qualifying species rely from being maintained or restored.	
Buchan Ness to Collieston Coast SPA	Kittiwake Guillemot	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
	Guillemot		Maintain the breeding population of guillemots at a stable or increasing trend relative to the current site reference population.		No AEOI
	Kittiwake Guillemot		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	aspects of their life cycles associated with the site.	Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Farne Islands SPA	Kittiwake Puffin	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features.		The impact magnitude predicted during all project phases on the feature is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		• The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance significantly affecting the population of the species as a qualifying feature of the SPA. Changes in prey availability due to temporary habitat loss/disturbance during all project phases will therefore not prevent the conservation objectives from being achieved for the species as a viable component of the SPA. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases to result in adverse effects on the habitats of the qualifying species. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
	Kittiwake	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and		The predicted impact is not considered to be of a magnitude that would undermine this	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
St Abb's Head to Fast Castle SPA	Guillemot (non-breeding season only) Razorbill	make an appropriate contribution to achieving Favourable Conservation Status.		conservation objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake Razorbill	2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species	No AEOI
	Guillemot (non-breeding seasons only)		Maintain the breeding population of guillemots at a stable or increasing trend relative to the site reference population.		No AEOI
	Kittiwake Guillemot (non-breeding seasons only) Razorbill		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			and ensure individuals can move safely between these areas within the site.	within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Forth Islands SPA	Kittiwake Guillemot (non-breeding seasons only) Razorbill Puffin	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes	Maintain or enhance the extent and distribution of the	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Forth Islands SPA.	supporting habitats for the feature within the site.	all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Coquet Island SPA	Kittiwake	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during all project phases on kittiwake is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance significantly affecting the population of the species as a qualifying feature of the SPA. Changes in prey availability due to temporary habitat loss/disturbance during all project phases will therefore not prevent the conservation objectives from being achieved for the species as a viable component of the SPA.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases to result in adverse effects on the habitats of the qualifying species. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Troup, Pennan and Lion's Heads SPA	Kittiwake Guillemot (non-breeding seasons only) Razorbill	1. To ensure that the qualifying features of the Troup, Pennan and Lion's Heads SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Troup, Pennan and Lion's Heads SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake Guillemot (non-	2a. The populations of the qualifying features are viable components of the	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	breeding seasons only)	Troup, Pennan and Lion's Heads SPA .		and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Razorbill		Maintain the breeding population of razorbill at a stable or increasing trend relative to the site reference population		No AEOI
	Kittiwake Guillemot (non-breeding seasons only) Razorbill		Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		resources are maintained, or where appropriate restored, at Troup, Pennan and Lion's Heads SPA.	Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
East Caithness Cliffs SPA	Kittiwake Razorbill (non-breeding seasons only)	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			functionally linked sea outwith the site.	changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at East Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			where this could reduce supporting habitats and/or prey, should be avoided.		
Flamborough and Filey Coast SPA	Kittiwake Razorbill (non-breeding seasons only) Puffin	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during all project phases on kittiwake is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance significantly affecting the population of the species as a qualifying feature of the SPA. Changes in prey availability due to temporary habitat loss/disturbance during all project phases will therefore not prevent the conservation objectives from being achieved for the species as a viable component of the SPA. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				all project phases to result in adverse effects on the habitats of the qualifying species. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
North Caithness Cliffs SPA	Kittiwake Puffin	1. To ensure that the qualifying features of the North Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the North Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the North Caithness Cliffs SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact level predicted during all project phases on the feature at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA..	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout	Ensure the feature continues to have access to and can utilise all optimal habitats		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		the site by avoiding significant disturbance of the species.	suitable for all relevant aspects of their life cycles associated with the site.	Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Copinsay SPA	Kittiwake	1. To ensure that the qualifying features of the Copinsay SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Copinsay SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Copinsay SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level predicted during all project phases on kittiwake at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Copinsay SPA.	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hoy SPA	Kittiwake	1. To ensure that the qualifying features of the Hoy SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hoy SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are	Ensure the breeding population of kittiwake have	The impact level predicted during all project phases on kittiwake at the SPA is considered to be	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		viable components of the Hoy SPA.	the ability to recover to the site reference population.	negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		resources are maintained, or where appropriate restored, at Hoy SPA.	Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fair Isle SPA	Puffin (non-breeding seasons only)	1. To ensure that the qualifying features of the Fair Isle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fair Isle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fair Isle SPA.	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The impact level predicted during all project phases on puffin at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of	No AEOI
			Ensure puffins are not at significant risk from injury or mortality.		No AEOI
			Ensure puffins can move safely between the site and important areas of		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			functionally linked sea outwith the site.	changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fair Isle SPA.	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients,		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
West Westray SPA	Kittiwake (non-breeding seasons only)	1. To ensure that the qualifying features of the West Westray SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the West Westray SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the West Westray SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level predicted during all project phases on kittiwake at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at West Westray SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Foula SPA	Puffin (non-breeding seasons only)	1. To ensure that the qualifying features of the Foula SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2. To ensure that the integrity of the Foula SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Foula SPA.	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The impact level predicted during all project phases on puffin at the SPA is considered to be negligible based on the distance between the SPA and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure puffins are not at significant risk from injury or mortality.		No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Foula SPA.	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hermaness, Saxa Vord and Valla Field SPA	Puffin (non-breeding seasons only)	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The impact level predicted during all project phases on puffin at the SPA is considered to be negligible based on the distance between the SPA	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		Hermaness, Saxa Vord and Valla Field SPA.	Ensure puffins are not at significant risk from injury or mortality.	and Morven South and the restricted temporal and spatial scales across which impacts will occur. Consequently, the impact is considered undetectable against natural fluctuations of background mortality for the SPA population. It can therefore be concluded that there is a negligible risk during all project phases, of changes in prey availability due to temporary habitat loss/disturbance causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored. Furthermore, the impact of changes in prey availability due to temporary habitat loss/disturbance during all project phases will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for changes in prey availability due to temporary habitat loss/disturbance during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI
			Ensure the variety and abundance of food		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		restored, at Hermaness, Saxa Vord and Valla Field SPA.	resources and the condition of supporting habitats and associated processes have the ability to recover.	Changes in prey availability due to temporary habitat loss/disturbance associated with Morven South will therefore not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

1.1.3 Collision risk

Table 1.3: Conclusions against the conservation objectives of all Special Protection Areas from collision risk during the operations and maintenance phase

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake Herring gull (non-breeding) Gannet	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake Herring gull (non-breeding)	2a The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure breeding qualifying features have the ability to recover at the relevant SPA breeding colonies.	The impact level predicted during operations and maintenance on the feature at the functionally linked SPA(s) remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation	No AEOI
	Kittiwake Herring gull (non-breeding) Gannet		Ensure the qualifying features within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure the qualifying features can move safely between the site and important areas of functionally linked land outwith the site.	objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to the qualifying feature and ensure individuals can move safely between these areas within the site.		
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth	Maintain the extent and distribution of the supporting habitats for the qualifying feature within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		of Forth and St Andrews Bay Complex SPA.	Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
Fowlsheugh SPA	Kittiwake Herring gull	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Ensure the breeding population of the feature have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population.	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure the feature can move safely between the site and important areas of functionally linked land and sea outwith the site.	Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	Ensure herring gulls continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to herring gulls and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Fowlsheugh SPA.	Maintain the extent and distribution of the supporting habitats for herring gulls within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Existing water quality should be maintained any increase in nutrients turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Northumberland Marine SPA	Kittiwake	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Buchan Ness to Collieston Coast SPA	Kittiwake	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			of functionally linked sea outwith the site.	operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA.	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			habitats and/or prey, should be avoided.		
Farne Islands SPA	Kittiwake	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
St Abb's Head to Fast Castle SPA	Kittiwake	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of kittiwake have the ability to recover the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA.	No AEOI
			Ensure kittiwake are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwake can move safely between the site and important areas of functionally linked sea and freshwater outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA	Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			and/or prey, should be avoided.		
Forth Islands SPA	Kittiwake Gannet	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population.	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature	No AEOI
			Ensure the feature is not at significant risk from injury or mortality during the breeding season.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.	from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Forth Islands SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Coquet Island SPA	Kittiwake	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features.		The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		• The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Troup, Pennan and Lion's Heads SPA	Kittiwake	1. To ensure that the qualifying features of the Troup, Pennan and Lion's Heads SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2. To ensure that the integrity of the Troup, Pennan and Lion's Heads SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a The populations of the qualifying features are viable components of the Troup, Pennan and Lion's Heads SPA.	Ensure the breeding population of kittiwake have the ability to recover the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure kittiwake are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwake can move safely between the site and important areas of functionally linked sea and freshwater outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Troup, Pennan and Lion's Heads SPA	Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
East Caithness Cliffs SPA	Kittiwake	1. To ensure that the qualifying features of East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are	Maintain the breeding population of kittiwake	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		viable components of the East Caithness Cliffs SPA.	at a stable or increasing trend relative to the site reference population	advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the kittiwake populations as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		restored, at East Caithness Cliffs SPA.	Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.	function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in eutrophication or water turbidity where this could reduce supporting habitats and/or prey should be avoided.		No AEOI
Flamborough and Filey Coast SPA	Kittiwake Gannet (non-breeding seasons only)	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
North Caithness Cliffs SPA	Kittiwake	1. To ensure that the qualifying features of the North Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the North Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a The populations of the qualifying features are viable components of the North Caithness Cliffs SPA.	Ensure the breeding population of kittiwake have the ability to recover the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure kittiwake are not at significant risk from injury or mortality.	considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure kittiwake can move safely between the site and important areas of functionally linked sea and freshwater outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Caithness Cliffs SPA	Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			habitats and associated processes have the ability to recover.	qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Copinsay SPA	Kittiwake	1. To ensure that the qualifying features of Copinsay SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of Copinsay SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Copinsay SPA.	Ensure the breeding population of kittiwake have the ability to recover the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the	No AEOI
			Ensure kittiwake from Copinsay SPA are not at significant risk from injury or mortality		No AEOI
			Ensure kittiwake can move safely between the		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			site and important areas of functionally linked sea outwith the site.	operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Copinsay SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in eutrophication or water		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			turbidity where this could reduce supporting habitats and/or prey should be avoided.		
Hoy SPA	Kittiwake	1. To ensure that the qualifying features of Hoy SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of Hoy SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hoy SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hoy SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fair Isle SPA	Gannet (non-breeding	1. To ensure that the qualifying features of the Fair Isle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	seasons only)	2. To ensure that the integrity of the Fair Isle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fair Isle SPA.	Maintain the breeding population of gannets at a stable or increasing trend relative to the current site reference population.	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the sites		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.	relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Fair Isle SPA.	Maintain or enhance the extent and distribution of the support habitats for gannets within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
West Westray SPA	Kittiwake (non-breeding	1. To ensure that the qualifying features of the West Westray SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	seasons only)	2. To ensure that the integrity of the West Westray SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a The populations of the qualifying features are viable components of the West Westray SPA.	Ensure the breeding population of kittiwake have the ability to recover the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure kittiwake are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwake can move safely between the site and important areas of functionally linked sea and freshwater outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at West Westray SPA	Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Noss SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the Noss SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Noss SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are	Maintain the breeding population of gannet at a	The impact level experienced during operations and maintenance on gannet at the SPA remains below the	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		viable components of the Noss SPA.	stable or increasing trend relative to the current site reference population.	advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannet can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites.		No AEOI
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the sites.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate	Maintain or enhance the extent and distribution of the support habitats for gannet within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and	No AEOI
			Ensure the variety and abundance of food		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		restored, at the Noss SPA .	resources and the condition supporting habitats and associated processes have the ability to recover.	function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hermaness, Saxa Vord and Valla Field SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hermaness, Saxa Vord and Valla Field SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the current site reference population.	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure gannet can move safely between the site and important areas of functionally linked sea outwith the site.	for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites.		No AEOI
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the sites.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Hermaness, Saxa Vord and Valla Field SPA .	Maintain or enhance the extent and distribution of the support habitats for gannet within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
St Kilda SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Kilda SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Kilda SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the current site reference population.	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision risk during operation and maintenance will not prevent the conservation	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannet can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is	Ensure gannets continue to have access to and		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		maintained throughout the site by avoiding significant disturbance of the species.	can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the sites.	objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the sites.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the St Kilda SPA .	Maintain or enhance the extent and distribution of the support habitats for gannet within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

1.1.4 Displacement

Table 1.4: Conclusions against the conservation objectives of all Special Protection Areas from displacement during the operations and maintenance phase

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake Guillemot Razorbill Puffin Gannet	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure breeding qualifying feature has the ability to recover at the relevant SPA breeding colonies.	The impact level experienced during operations and maintenance on the feature at the functionally linked SPA(s) remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
	Kittiwake Guillemot Razorbill Puffin Gannet		Ensure the qualifying feature within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		
			Ensure the qualifying feature can move safely between the site and important areas of functionally linked land outwith the site.		

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to the qualifying feature and ensure individuals can move safely between these areas within the site.		
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		
			Existing water quality should be maintained and any increase in nutrients, turbidity or		

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
Fowlsheugh SPA	Kittiwake Guillemot Razorbill	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
	Razorbill		Maintain the breeding population of the feature at a stable or increasing trend relative to the current site reference population.		No AEOI
	Kittiwake Razorbill		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
	Kittiwake Guillemot Razorbill	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fowlsheugh SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			habitats and/or prey, should be avoided.		
	Guillemot	2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Maintain the breeding population of guillemot at a stable or increasing trend relative to the current site reference population.	The impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA. The PVA results for guillemot presented in the RIAA Part 3 demonstrate that the impact would likely remain undetectable against natural population fluctuations. Therefore, it is evident that impact magnitude is negligible and would not significantly impact the guillemot feature of the SPA. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the guillemot populations as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all	No AEOI
			Ensure guillemots are not at significant risk from injury or mortality.		No AEOI
			Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				relevant aspects of the feature's life cycle associated with the site.	
Northumberland Marine SPA	Kittiwake Razorbill Puffin Fulmar	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Buchan Ness to Collieston Coast SPA	Kittiwake Guillemot	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	for all relevant aspects of their life cycles associated with the site.	therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site..	
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
	Kittiwake Guillemot	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Guillemot	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Maintain the breeding population of guillemots at a stable or increasing trend relative to the current site reference population.	The impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA. The PVA results for guillemot concluded that the impact would not significantly affect the population and would likely remain undetectable against natural population fluctuations. Furthermore, it is not expected to significantly alter the background mortality rate. Therefore, it is clear that the PVA results indicate that the impact levels modelled are negligible and would not significantly affect the guillemot feature of the SPA. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and	No AEOI
			Ensure guillemots are not at significant risk from injury or mortality.		No AEOI
			Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to guillemots and ensure individuals can move		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			safely between these areas within the site.	therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
Farne Islands SPA	Kittiwake Puffin	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Additionally, there is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
St Abb's Head to Fast Castle SPA	Kittiwake Guillemot (non-breeding seasons only) Razorbill	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake Razorbill	2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
	Kittiwake Guillemot (non-breeding seasons only) Razorbill	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			habitats and/or prey, should be avoided.		
	Guillemot	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Maintain the breeding population of guillemots at a stable or increasing trend relative to the site reference population.	The impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA. The PVA results for guillemot concluded that the impact would not significantly affect the population and would likely remain undetectable against natural population fluctuations. Furthermore, it is not expected to significantly alter the background mortality rate. Therefore, it is clear that the PVA results indicate that the impact levels modelled are negligible and would not significantly affect the guillemot feature of the SPA. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement	No AEOI
			Ensure guillemots are not at significant risk from injury or mortality.		No AEOI
			Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.	causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
Forth Islands SPA	Kittiwake Guillemot (non-breeding seasons only) Razorbill Puffin Gannet	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake Razorbill Puffin Gannet	2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population.	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.	Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
	Guillemot (non-breeding seasons only)	2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of guillemots at a stable or increasing trend relative to the site reference population.	The impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA. The PVA results for guillemot concluded that the impact would not significantly affect the population and would likely remain undetectable against natural population fluctuations. Furthermore, it is not expected to significantly alter the background mortality rate. Therefore, it is clear that the PVA results indicate that the impact levels modelled are negligible	No AEOI
			Ensure guillemots are not at significant risk from injury or mortality		No AEOI
			Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	and would not significantly affect the guillemot feature of the SPA. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site		No AEOI
	Kittiwake Guillemot (non-breeding seasons only) Razorbill Puffin Gannet	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Forth Islands SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Coquet Island SPA	Kittiwake Puffin Fulmar	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Troup, Pennan and Lion's Heads SPA	Kittiwake Guillemot (non-breeding seasons only) Razorbill	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a	No AEOI
	Razorbill		Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Kittiwake Razorbill		Ensure the feature is not at significant risk from injury or mortality.	negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
	Kittiwake Guillemot (non-breeding seasons only) Razorbill	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			processes have the ability to recover.		
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Guillemot (non-breeding seasons only)	2a. The populations of the qualifying features are viable components of the Troup, Pennan and Lion's Heads SPA.	Ensure the breeding population of guillemot have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA. The PVA results for guillemot concluded that the impact would not significantly affect the population and would likely remain undetectable against natural population fluctuations. Furthermore, it is not expected to significantly alter the background mortality rate. Therefore, it is clear that the PVA results indicate that the impact levels modelled are negligible and would not significantly affect the guillemot feature of the SPA. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA.	No AEOI
			Ensure guillemots are not at significant risk from injury or mortality.		No AEOI
			Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			guillemots and ensure individuals can move safely between these areas within the site.	Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
East Caithness Cliffs SPA	Kittiwake Razorbill (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			of functionally linked sea outwith the site.	operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at East Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			could reduce supporting habitats and/or prey, should be avoided.		
Flamborough and Filey Coast SPA	Kittiwake Razorbill (non-breeding seasons only) Puffin Gannet (non-breeding seasons only) Fulmar	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
North Caithness Cliffs SPA	Kittiwake Puffin Fulmar	1. To ensure that the qualifying features of the North Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the North Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the North Caithness Cliffs SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	aspects of their life cycles associated with the site.	therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Copinsay SPA	Kittiwake	1. To ensure that the qualifying features of the Copinsay SPA are in favourable condition and make		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		an appropriate contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Copinsay SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Copinsay SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Copinsay SPA.	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hoy SPA	Kittiwake Fulmar	1. To ensure that the qualifying features of the Hoy SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hoy SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hoy SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure the feature is not at significant risk from injury or mortality.	considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hoy SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			processes have the ability to recover.		
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fair Isle SPA	Puffin (non-breeding seasons only) Gannet (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the Fair Isle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fair Isle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Gannet (non-breeding seasons only) Fulmar	2a. The populations of the qualifying features are viable components of the Fair Isle SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement	No AEOI
	Puffin (non-breeding seasons only)		Ensure the breeding population of the feature has the ability to recover to the site reference population.		No AEOI
	Puffin (non-breeding seasons only)		Ensure the feature is not at significant risk from injury or mortality.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Gannet (non-breeding seasons only) Fulmar		Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.	causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fair Isle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
West Westray SPA	Kittiwake (non-breeding seasons only)	1. To ensure that the qualifying features of the West Westray SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the West Westray SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the West Westray SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	of their life cycles associated with the site.	therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at West Westray SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Noss SPA		1. To ensure that the qualifying features of the Noss SPA are in favourable condition and make an		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Gannet (non-breeding seasons only) Fulmar	appropriate contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Noss SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Gannet (non-breeding seasons only)	2a. The populations of the qualifying features are viable components of the Noss SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
	Fulmar		Ensure the breeding population of the feature has the ability to recover to the site reference population.		No AEOI
	Gannet (non-breeding seasons only) Fulmar		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Noss SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Foula SPA	Puffin (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the Foula SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Foula SPA is restored in the context of environmental changes by		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		meeting objectives 2a, 2b and 2c for each qualifying feature:			
		2a. The populations of the qualifying features are viable components of the Foula SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying	Maintain the extent and distribution of the supporting habitats for	There is no pathway for displacement impacts during all operations and maintenance of Morven South to	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		features and their prey resources are maintained, or where appropriate restored, at Foula SPA.	the feature within the site.	result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hermaness, Saxa Vord and Valla Field SPA	Puffin (non-breeding seasons only) Gannet (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Gannet (non-breeding seasons only)	2a. The populations of the qualifying features are viable components of the Hermaness, Saxa	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Puffin (non-breeding seasons only) Fulmar	Vord and Valla Field SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Puffin (non-breeding seasons only) Gannet (non-breeding seasons only) Fulmar		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		maintained, or where appropriate restored, at Hermaness, Saxa Vord and Valla Field SPA.	Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fetlar SPA	Fulmar	1. To ensure that the qualifying features of the Fetlar SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fetlar SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fetlar SPA.	Ensure the breeding population of fulmar has the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on fulmar at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population.	No AEOI
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the site.	Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to fulmars and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fetlar SPA.	Maintain or enhance the extent and distribution of the supporting habitats for fulmars within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
St Kilda SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Kilda SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Kilda SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	life cycles associated with the site.	therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Kilda SPA.	Maintain or enhance the extent and distribution of the supporting habitats for gannets within the site.	There is no pathway for displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

1.1.5 Combined collision and displacement

Table 1.5: Conclusions against the conservation objectives of all Special Protection Areas from combined collision and displacement during the operations and maintenance phase

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure breeding qualifying species have the ability to recover at the relevant SPA breeding colonies.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not	No AEOI
			Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		No AEOI
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for combined collision and displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			habitats and/or prey, should be avoided.		
	Gannet	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and nonbreeding seasons	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not	No AEOI
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	aspects of their life cycle associated with the site.	influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for combined collision and displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Kittiwake	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Fowlsheugh SPA		make an appropriate contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			safely between these areas within the site.		
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fowlsheugh SPA.	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Northumberland Marine SPA	Kittiwake	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely.		There is no pathway for combined collision and displacement impacts during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		• The populations of each of the qualifying features. • The distribution of qualifying features within the site.			
Buchan Ness to Collieston Coast SPA	Kittiwake	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure kittiwakes continue to have access to and can utilise all optimal habitats		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	suitable for all relevant aspects of their life cycles associated with the site.	objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA.	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Farne Islands SPA	Kittiwake	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate,		The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features.. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
St Abb's Head to Fast Castle SPA	Kittiwake	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			kittiwakes and ensure individuals can move safely between these areas within the site.	suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Forth Islands SPA	Kittiwake Gannet	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution,	No AEOI
			Maintain the variety and abundance of food resources and the condition		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		features and their prey resources are maintained, or where appropriate restored, at Forth Islands SPA.	of supporting habitats and associated processes. Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
Coquet Island SPA	Kittiwake	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Troup, Pennan and Lion's Heads SPA	Kittiwake	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			linked sea outwith the site.	impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
East Caithness Cliffs SPA	Kittiwake	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of kittiwake at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	cycles associated with the site.	Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at East Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Flamborough and Filey Coast SPA	Kittiwake Gannet (non-breeding seasons only)	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:		The impact level experienced during operations and maintenance on the feature at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		• The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
	Kittiwake	1. To ensure that the qualifying features of the North Caithness Cliffs SPA are in favourable condition and		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
North Caithness Cliffs SPA		make an appropriate contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the North Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the North Caithness Cliffs SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			safely between these areas within the site.		
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Copinsay SPA	Kittiwake	1. To ensure that the qualifying features of the Copinsay SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Copinsay SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features	Ensure the breeding population of kittiwake	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		are viable components of the Copinsay SPA.	have the ability to recover to the site reference population.	advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution,	No AEOI
			Ensure the variety and abundance of food		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		appropriate restored, at Copinsay SPA.	resources and the condition of supporting habitats and associated processes have the ability to recover.	structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hoy SPA	Kittiwake	1. To ensure that the qualifying features of the Hoy SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hoy SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hoy SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			areas of functionally linked sea outwith the site.	operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hoy SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
Fair Isle SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the Fair Isle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fair Isle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fair Isle SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	aspects of their life cycles associated with the site.	Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fair Isle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for gannets within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
West Westray SPA	Kittiwake (non-breeding	1. To ensure that the qualifying features of the West Westray SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	seasons only)	2. To ensure that the integrity of the West Westray SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the West Westray SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at West Westray SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Noss SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the Noss SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Noss SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features	Maintain the breeding population of gannet at a stable or increasing	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		are viable components of the Noss SPA.	trend relative to the site reference population	increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where	Maintain or enhance the extent and distribution of the supporting habitats for gannets within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying	No AEOI
			Ensure the variety and abundance of food		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		appropriate restored, at Noss SPA.	resources and the condition of supporting habitats and associated processes have the ability to recover.	species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hermaness, Saxa Vord and Valla Field SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hermaness, Saxa Vord and Valla Field SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			the site and important areas of functionally linked sea outwith the site.	negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hermaness, Saxa Vord and Valla Field SPA.	Maintain or enhance the extent and distribution of the supporting habitats for gannets within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		
St Kilda SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Kilda SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Kilda SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The impact level experienced during operations and maintenance on gannet at the SPA remains below the advised threshold of 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of the combined impact of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, collision and displacement during operation and maintenance will not prevent the conservation	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding	Ensure gannets continue to have access to and can utilise all optimal habitats		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		significant disturbance of the species.	suitable for all relevant aspects of their life cycles associated with the site.	objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Kilda SPA.	Maintain or enhance the extent and distribution of the supporting habitats for gannets within the site.	There is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

1.1.6 Barrier effects

Table 1.6: Conclusions against the conservation objectives of all Special Protection Areas from barrier effects during the operations and maintenance phase

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake Guillemot Razorbill Puffin Gannet	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure the breeding qualifying feature has the ability to recover at the relevant SPA breeding colonies.	The impact magnitude predicted during operations and maintenance phase on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and	No AEOI
	Kittiwake Guillemot Razorbill Puffin Gannet		Ensure the breeding qualifying feature within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		No AEOI
			Ensure the breeding qualifying feature can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		disturbance of the species.	of their life cycle associated with the site.	therefore the species will remain a viable component of the SPA.	
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.	Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fowlsheugh SPA	Kittiwake Guillemot Razorbill	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Kittiwake	2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact magnitude predicted during operations and maintenance phase on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
	Guillemot Razorbill		Maintain the breeding population of the feature at a stable or increasing trend relative to the current site reference population.		No AEOI
	Kittiwake Guillemot Razorbill		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		resources are maintained, or where appropriate restored, at Fowlsheugh SPA.	Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Northumberland Marine SPA	Kittiwake Razorbill Puffin Fulmar	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Buchan Ness to Collieston Coast SPA	Kittiwake Guillemot	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-	No AEOI
	Guillemot		Maintain the breeding population of guillemots at a stable or		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			increasing trend relative to the current site reference population.	material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Kittiwake Guillemot		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	qualifying species rely from being maintained or restored.	No AEOI
Farne Islands SPA	Kittiwake Puffin	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
St Abb's Head to Fast Castle SPA	Kittiwake Razorbill	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk during	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Forth Islands SPA	Kittiwake Razorbill Puffin Gannet	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Forth Islands SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Coquet Island SPA	Kittiwake Puffin Fulmar	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Troup, Pennan and Lion's Heads SPA	Kittiwake Razorbill	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Kittiwake	2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
	Razorbill		Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population		No AEOI
	Kittiwake Razorbill		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
East Caithness Cliffs SPA	Kittiwake Razorbill (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at East Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Flamborough and Filey Coast SPA	Kittiwake Razorbill (non-breeding seasons only) Puffin Gannet (non-breeding seasons only) Fulmar	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent,	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
North Caithness Cliffs SPA	Kittiwake Puffin Fulmar	1. To ensure that the qualifying features of the North Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the North Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the North Caithness Cliffs SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			between these areas within the site.	Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Copinsay SPA	Kittiwake	1. To ensure that the qualifying features of the Copinsay SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Copinsay SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are	Ensure the breeding population of the feature has the ability to	The impact magnitude predicted during operations and maintenance phase on the	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		viable components of the Copinsay SPA.	recover to the site reference population.	feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Copinsay SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			habitats and associated processes have the ability to recover.	habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hoy SPA	Kittiwake Fulmar	1. To ensure that the qualifying features of the Hoy SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hoy SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hoy SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population.	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.	Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or	No AEOI
		2b. The distribution of the qualifying features is maintained throughout the	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		site by avoiding significant disturbance of the species.	relevant aspects of their life cycles associated with the site.	mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hoy SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Fair Isle SPA	Puffin (non-breeding seasons only) Gannet (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the Fair Isle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fair Isle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Gannet (non-breeding seasons only) Fulmar	2a. The populations of the qualifying features are viable components of the Fair Isle SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
	Puffin (non-breeding seasons only)		Ensure the breeding population of the feature has the ability to recover to the site reference population.		No AEOI
	Puffin (non-breeding seasons only) Gannet (non-breeding		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is	Ensure the feature continues to have access to and can utilise all		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	seasons only) Fulmar	maintained throughout the site by avoiding significant disturbance of the species.	optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fair Isle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
West Westray SPA	Kittiwake (non-breeding seasons only)	1. To ensure that the qualifying features of the West Westray SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the West Westray SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2a. The populations of the qualifying features are viable components of the West Westray SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		resources are maintained, or where appropriate restored, at West Westray SPA.	Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Noss SPA	Gannet (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the Noss SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Noss SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Gannet (non-breeding seasons only)	2a. The populations of the qualifying features are viable components of the Noss SPA.	Maintain the breeding population of the feature at a stable or increasing trend relative to the site reference population	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and	No AEOI
	Fulmar		Ensure the breeding population of fulmar have the ability to recover to the site reference population.		No AEOI
	Gannet (non-breeding		Ensure the feature is not at significant risk from injury or mortality.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	seasons only) Fulmar		Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.	maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Noss SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Foula SPA	Puffin (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the Foula SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Foula SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Foula SPA.	Ensure the breeding population of the feature has the ability to recover to the site reference population.	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal	No AEOI
			Ensure the feature is not at significant risk from injury or mortality.		No AEOI
			Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Foula SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hermaness, Saxa Vord and Valla Field SPA	Puffin (non-breeding seasons only) Gannet (non-breeding seasons only) Fulmar	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Gannet (non-breeding	2a. The populations of the qualifying features are viable components of the	Maintain the breeding population of the feature at a stable or	The impact magnitude predicted during operations and maintenance phase on the feature was qualitatively assessed. The	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	seasons only)	Hermaness, Saxa Vord and Valla Field SPA.	increasing trend relative to the site reference population	outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Puffin (non-breeding seasons only) Fulmar		Ensure the feature is not at significant risk from injury or mortality.		No AEOI
	Puffin (non-breeding seasons only) Gannet (non-breeding seasons only) Fulmar		Ensure the feature can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the feature continues to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to the feature and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hermaness,	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		Saxa Vord and Valla Field SPA.	processes have the ability to recover.	supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
St Kilda SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Kilda SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Kilda SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The impact magnitude predicted during operations and maintenance phase on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from barrier to movement to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during operations and maintenance, of barrier effects causing injury or mortality to the species as a qualifying feature of the SPA.	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		disturbance of the species.	Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.	Therefore, barrier effects during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from barrier effects during operations and maintenance will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Kilda SPA.	Maintain or enhance the extent and distribution of the supporting habitats for gannets within the site.	There is no pathway for barrier effects during the operations and maintenance phase of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, barrier effects associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

1.1.7 Attraction to light

Table 1.7: Conclusions against the conservation objectives of all Special Protection Area from attraction to light during all Morven South phases

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Northumberland Marine SPA	Fulmar	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				which the habitats of qualifying species rely from being maintained or restored.	
Coquet Island SPA	Fulmar	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				which the habitats of qualifying species rely from being maintained or restored.	
East Caithness Cliffs SPA	Fulmar	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of fulmars at a stable or increasing trend relative to the site reference population.	The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all	No AEOI
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI
			Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to fulmars and ensure		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			individuals can move safely between these areas within the site.	relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at East Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for fulmar within the site.	There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Flamborough and Filey Coast SPA	Fulmar	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features.		The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		• The distribution of qualifying features within the site.		causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
North Caithness Cliffs SPA	Fulmar	1. To ensure that the qualifying features of the North Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the North Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are	Ensure the breeding population of fulmar have the	The impact magnitude predicted during all project phases on this feature was qualitatively assessed.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		viable components of the North Caithness Cliffs SPA.	ability to recover to the site reference population.	The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI
			Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to fulmars and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Caithness Cliffs SPA.	Maintain the extent and distribution of the supporting habitats for fulmar within the site.	There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hoy SPA	Fulmar	1. To ensure that the qualifying features of the Hoy SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Hoy SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hoy SPA.	Ensure the breeding population of fulmars have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives	No AEOI
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI
			Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		disturbance of the species.	their life cycles associated with the site.	of the site from being achieved and therefore the species will remain a viable component of the SPA.	
			Avoid significant disturbance to fulmars and ensure individuals can move safely between these areas within the site.	Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hoy SPA.	Maintain or enhance the extent and distribution of the supporting habitats for fulmar within the site.	There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fair Isle SPA	Fulmar	1. To ensure that the qualifying features of the Fair Isle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2. To ensure that the integrity of the Fair Isle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fair Isle SPA.	Maintain the breeding population of fulmar at a stable or increasing trend relative to the site reference population	The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI
			Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to fulmars and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes	Maintain or enhance the extent and distribution of the		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fair Isle SPA.	supporting habitats for fulmars within the site.	There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Noss SPA	Fulmar	1. To ensure that the qualifying features of the Noss SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Noss SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Noss SPA.	Ensure the breeding population of fulmar have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant	No AEOI
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI
			Ensure fulmars can move safely between the site and important areas of		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			functionally linked sea outwith the site.	risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to fulmars and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Noss SPA.	Maintain the extent and distribution of the supporting habitats for fulmar within the site.	There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Foula SPA	Fulmar	1. To ensure that the qualifying features of the Foula SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Foula SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Foula SPA.	Ensure the breeding population of fulmar have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives	No AEOI
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI
			Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		disturbance of the species.	their life cycles associated with the site.	of the site from being achieved and therefore the species will remain a viable component of the SPA.	
			Avoid significant disturbance to fulmars and ensure individuals can move safely between these areas within the site.	Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Foula SPA.	Maintain the extent and distribution of the supporting habitats for fulmar within the site.	There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hermaness, Saxa Vord and Valla Field SPA	Fulmar	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hermaness, Saxa Vord and Valla Field SPA.	Ensure the breeding population of fulmar have the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI
			Ensure fulmars can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to fulmars and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes	Maintain the extent and distribution of the supporting		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hermaness, Saxa Vord and Valla Field SPA.	habitats for fulmar within the site.	There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fetlar SPA	Fulmar	1. To ensure that the qualifying features of the Fetlar SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fetlar SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fetlar SPA.	Ensure the breeding population of fulmar has the ability to recover to the site reference population.	The impact magnitude predicted during all project phases on this feature was qualitatively assessed. The outcome of the assessment deemed the impact from attraction to light to be negligible as the impact is considered non-material, falling within the natural fluctuations of the population. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the feature, it can be concluded that	No AEOI
			Ensure fulmars are not at significant risk from injury or mortality.		No AEOI
			Ensure fulmars can move safely between the site and		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			important areas of functionally linked sea outwith the site.	there is a negligible risk (and so not a significant risk) during all project phases, of attraction to light causing injury or mortality to the species as a qualifying feature of the SPA. Therefore, attraction to light during all project phases will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact from attraction to light during all project phases will not significantly influence the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure fulmars continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to fulmars and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fetlar SPA.	Maintain or enhance the extent and distribution of the supporting habitats for fulmars within the site.	There is no pathway for attraction to light during all project phases of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, attraction to light associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

1.2 Assessment of the adverse effects of Morven South in-combination with other plans and projects

1.2.1 Collision risk

Table 1.8: Conclusions against the conservation objectives of all Special Protection Areas relating to collision risk during the operations and maintenance phase of Morven South in-combination with other plans and projects

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	AEOI
		2a The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure breeding kittiwake have the ability to recover at the relevant SPA breeding colonies.	The in-combination impact level experienced during operations and maintenance on kittiwake at the St Abb's Head to Fast Castle SPA, from which kittiwake may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the St Abb's Head to Fast Castle SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the St Abb's Head to Fast Castle SPA population as predicted by PVA modelling has the potential to be of a magnitude that could prevent the kittiwake population at the St Abb's Head to Fast Castle SPA from continuing to recover. The population of kittiwake at the St Abb's Head to Fast Castle SPA has decreased between the two most recent	AEOI
			Ensure kittiwake within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		AEOI
			Ensure kittiwake can move safely between the site and important areas of functionally linked land outwith the site.		AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				national censuses but has shown signs of recovery since however, it remains below the designated population. The in-combination impact is considered to be an over-estimate due to various factors discussed in the RIAA Part 3 and there are various uncertainties that limit the ability of PVA modelling to accurately predict the population effect of the predicted in-combination impact. Whilst taking account of these factors improves the PVA metrics it is considered that this may not be to a level at which the potential for a significant effect can confidently be ruled out. Therefore, due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for a significant effect on the kittiwake population of the St Abb's Head to Fast Castle SPA as a result of in-combination collision risk impacts associated with Morven South and other plans and projects. Therefore, there is potential for in-combination collision risk during operation and maintenance to prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwake continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	The impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to kittiwake and ensure individuals can		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			move safely between these areas within the site.		
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying feature within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Gannet	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a The populations of the qualifying features are	Ensure breeding gannet have the ability to recover at	The in-combination impact level experienced during operations and maintenance on gannet at	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	the relevant SPA breeding colonies.	the Forth Islands SPA, from which gannet may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the gannet population at the Forth Islands SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the Forth Islands SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the Forth Islands SPA, noting that although the population of gannet at the Forth Islands SPA has increased between the two most recent national censuses it has since declined due to HPAI. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of gannet at the Forth Islands SPA as a result of in-combination collision risk impacts. Therefore, in-combination collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from	
			Ensure gannet within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		No AEOI
			Ensure gannet can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannet continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to gannet and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying feature within the site.	There is no pathway for collision risk during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Fowlsheugh SPA	Kittiwake	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are	Ensure the breeding population of kittiwake have	The in-combination impact level experienced during operations and maintenance on kittiwake	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		viable components of the Fowlsheugh SPA.	the ability to recover to the site reference population	surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for a significant effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that there will be no significant effect on the population of kittiwake at the Fowlsheugh SPA as a result of in-combination collision risk impacts. Therefore, in-combination collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all	
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safety between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Fowlsheugh SPA.	Maintain the breeding population of kittiwake at a stable or increasing trend relative to the current site reference population	There is no pathway for in-combination collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats.		No AEOI
Northumberland Marine SPA	Kittiwake	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely.		The in-combination impact level experienced during operations and maintenance on kittiwake at the Farne Islands SPA, from which kittiwake may occur within the Northumberland Marine SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the Farne Islands SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		• The populations of each of the qualifying features. • The distribution of qualifying features within the site.		prevent the kittiwake population at the Farne Islands SPA from recovering, noting that the population of kittiwake at the SPA declined between the two most recent national censuses. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that they will be no a significant effect on the population of kittiwake at the Farne Islands SPA as a result of in-combination collision risk impacts. Therefore, in-combination collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for in-combination collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Buchan Ness to Collieston Coast SPA	Kittiwake	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for a significant effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that there will be no significant effect on the population of kittiwake at the Buchan Ness to Collieston Coast SPA as a result of in-combination collision risk impacts.	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Therefore, in-combination collision risk impacts during operation and maintenance will not prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site. Furthermore, the in-combination impact of collision risk during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA.	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for in-combination collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Gannet	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Forth Islands SPA		appropriate contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population.	The in-combination impact level experienced during operations and maintenance on gannet surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the gannet population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of gannet at the Forth Islands SPA as a result of in-combination collision risk impacts. Therefore, in-combination collision risk during operation and maintenance will not prevent the conservation objectives of the site from being	No AEOI
			Ensure gannet are not at significant risk from injury or mortality during the breeding season.		No AEOI
			Ensure gannet can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannet continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to gannet and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Forth Islands SPA.	Maintain the extent and distribution of the supporting habitats for gannet within the site.	There is no pathway for in-combination collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
St Abb's Head to Fast Castle SPA	Kittiwake	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is considered to be of a magnitude that has the potential to impact this conservation objective. Please see justifications for objectives 2a, 2b and 2c	AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental		Please see justifications for objectives 2a, 2b and 2c	AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		changes by meeting objectives 2a, 2b and 2c for each qualifying feature:			
		2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of kittiwake have the ability to recover the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that could prevent the kittiwake population at the SPA from continuing to recover. The population of kittiwake at the SPA has decreased between the two most recent national censuses but has shown signs of recovery since however, it remains below the designated population. The in-combination impact is considered to be an over-estimate due to various factors discussed in the RIAA Part 3 and there are various uncertainties that limit the ability of PVA modelling to accurately predict the population effect of the predicted in-combination impact. Whilst taking account of these factors improves the PVA metrics it is considered that this may not be to a level at which the potential for a significant effect can confidently be ruled out. Therefore, due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for a significant effect on the kittiwake population of the St Abb's Head to Fast Castle SPA as a result of in-combination	AEOI
			Ensure kittiwake are not at significant risk from injury or mortality.		AEOI
			Ensure kittiwake can move safely between the site and important areas of functionally linked sea and freshwater outwith the site.		AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				collision risk impacts associated with Morven South and other plans and projects. Therefore, there is potential for in-combination collision risk during operation and maintenance to prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site, as well as to influence the long-term maintenance of the distribution of the assessed qualifying species within the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	The impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA	Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Troup, Pennan and Lion's Heads SPA	Kittiwake	1. To ensure that the qualifying features of the Troup, Pennan and Lion's Heads SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Troup, Pennan and Lion's Heads SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Troup, Pennan and Lion's Heads SPA.	Ensure the breeding population of kittiwake have the ability to recover the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for a significant effect can be discounted. The predicted effect on the growth rate of the SPA population as	No AEOI
			Ensure kittiwake are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwake can move safely between the site and important areas of functionally linked sea and freshwater outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		site by avoiding significant disturbance of the species.	aspects of their life cycle associated with the site.	predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. The contribution of Morven South to the in-combination impact, particularly under NatureScot's recommended parameter scenario is also not considered to materially alter the current in-combination impact. It is therefore considered that there will be no significant effect on the population of kittiwake at the Troup, Pennan and Lion's Heads SPA as a result of in-combination collision risk impacts. Therefore, in-combination collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Troup, Pennan and Lion's Heads SPA	Maintain or enhance the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			associated processes have the ability to recover.	processes on which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained any increase in eutrophication, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
East Caithness Cliffs SPA	Kittiwake	1. To ensure that the qualifying features of East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of kittiwake at a stable or increasing trend relative to the site reference population	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	at which it is considered the potential for a significant effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. The contribution of Morven South to the in-combination impact, particularly under NatureScot's recommended parameter scenario is also not considered to materially alter the current in-combination impact. It is therefore considered that there will be no significant effect on the population of kittiwake at the East Caithness Cliffs SPA as a result of in-combination collision risk impacts. Therefore, in-combination collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained,	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for in-combination collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		or where appropriate restored, at East Caithness Cliffs SPA.	Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.	Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in eutrophication or water turbidity where this could reduce supporting habitats and/or prey should be avoided.		No AEOI
Flamborough and Filey Coast SPA	Kittiwake	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the kittiwake population at the SPA from continuing to grow, noting that the population of kittiwake at the SPA has shown an increasing trend between the two most recent national censuses. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				modelling it is considered that they will be no significant effect on the population of kittiwake at the Flamborough and Filey Coast SPA as a result of in-combination collision risk impacts. Therefore, in-combination collision risk during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of collision during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, There is no pathway for in-combination collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	

1.2.2 Displacement

Table 1.9: Conclusions against the conservation objectives of all Special Protection Areas relating to displacement during the operations and maintenance phase of Morven South in-combination with other plans and projects

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure breeding qualifying species have the ability to recover at the relevant SPA breeding colonies.	The in-combination impact level experienced during operations and maintenance on kittiwake at the functionally linked SPAs, from which kittiwake may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the functionally linked SPAs with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the St Abb's Head to Fast Castle SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the kittiwake population at the functionally linked SPA. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted to a level at which it is considered the potential for a significant effect can be	No AEOI
			Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		No AEOI
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the St Abb's Head to Fast Castle SPA from recovering. It is therefore considered that there will be no significant effect on the population of kittiwake at the Outer Firth of Forth and St Andrews Bay Complex SPA as a result of in-combination displacement impacts. Therefore, in-combination displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the Outer Firth of Forth and St Andrews Bay Complex SPA.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	The in-combination impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for in-combination collision risk during all operations and maintenance to result in adverse effects on the habitats of the qualifying species.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, in-combination collision risk associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Guillemot	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	AEOI
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and nonbreeding seasons	The in-combination impact level experienced during operations and maintenance on guillemot at the Forth Islands SPA and Troup, Pennan and Lion's Heads SPA, from which guillemot may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population	AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure the qualifying feature can move safely between the site and important areas of functionally linked land outwith the site.	modelling was conducted to further understand potential impacts on the guillemot population at the Forth Islands SPA and Troup, Pennan and Lion's Heads SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA populations as predicted by PVA modelling has the potential to be of a magnitude that would impact the guillemot populations at the SPAs. Whilst the PVA modelling predicts that the population growth rate will remain positive this does not correspond with the current trend seen at both SPAs where the population is declining and, as a result of the predicted in-combination impact, may decline below the designated population during the lifetime of Morven South. The in-combination impact is considered to be an over-estimate due to various factors discussed within the RIAA Part 3 and there are various uncertainties that limit the ability of PVA modelling to accurately predict the population effect of the predicted in-combination impact. However, due to the current declining trend at both SPAs and the PVA outputs it is considered, on a precautionary basis that there is potential for such a significant effect on the guillemot population of the Forth Islands SPA and Troup, Pennan and Lion's Heads SPA as a result of in-combination displacement impacts associated with Morven South and other plans and projects during operation and maintenance to prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site, as well as to influence the long-term maintenance of the distribution of the assessed qualifying species within the site by	AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.		AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				preventing the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Therefore, there is potential for in-combination displacement during operation and maintenance to prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site, as well as to influence the long-term maintenance of the distribution of the assessed qualifying species within the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
	Razorbill	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and nonbreeding seasons	The in-combination impact level experienced during operations and maintenance on razorbill at functionally linked SPAs, from which razorbill may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the razorbill population at functionally linked breeding colonies with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the razorbill population as predicted by PVA modelling is not considered to be of a magnitude that would impact the razorbill population at functionally linked breeding colonies. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted to a level at which it is considered the potential for a significant effect can be discounted. The predicted effect on the growth rate as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the razorbill population from being maintained. It is therefore considered that there will be no significant effect on the population of razorbill at the Outer Firth of Forth and St Andrews Bay Complex SPA as a result of in-combination displacement impacts. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or	No AEOI
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Therefore, in-combination displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the Outer Firth of Forth and St Andrews Bay Complex SPA.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Puffin	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		contribution to achieving Favourable Conservation Status.			
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and nonbreeding seasons	The in-combination impact level experienced during operations and maintenance on puffin at the Forth Islands SPA, from which puffin may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the puffin population at the Forth Islands SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the Forth Islands SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the Forth Islands SPA from being maintained, noting that the population of puffin at the Forth Islands SPA is higher than the designated population. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of puffin at the Forth Islands SPA as a result of in-combination displacement impacts. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the	No AEOI
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			move safely between these areas within the site.	assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Therefore, in-combination displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the Outer Firth of Forth and St Andrews Bay Complex SPA.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in a significant effect on the habitats of the qualifying species. Therefore, in-combination displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Gannet	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and nonbreeding seasons	The in-combination impact level experienced during operations and maintenance on gannet at the Forth Islands SPA, from which gannet may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the gannet population at the Forth Islands SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the Forth Islands SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the Forth Islands SPA, noting that although the population of gannet at the Forth Islands SPA has increased between the two most recent national censuses it has since declined due to HPAI. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of gannet at the Forth Islands SPA as a result of in-combination displacement impacts. Therefore, in-combination displacement during operation and maintenance will not prevent the	No AEOI
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			move safely between these areas within the site.	conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in a significant effects on the habitats of the qualifying species. Therefore, in-combination displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Kittiwake	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Fowlsheugh SPA	Guillemot Razorbill	appropriate contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for a significant effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that there will be no significant effect on the population of kittiwake at the Fowlsheugh SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Guillemot	2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Maintain the breeding population of guillemot at a stable or increasing trend relative to the current site reference population.	The in-combination impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the guillemot population at the SPA. However, the population at the SPA is above the cited population and as the PVA modelling predicts that the population growth rate will remain positive, the conservation objectives for the SPA will not be undermined. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of guillemot at the Fowlsheugh SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and	No AEOI
			Ensure guillemots are not at significant risk from injury or mortality.		No AEOI
			Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Razorbill	2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Maintain the breeding population of razorbills at a stable or increasing trend relative to the current site reference population.	The in-combination impact level experienced during operations and maintenance on razorbill surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the razorbill population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the razorbill population at the SPA. The population at the SPA is above the cited population and the population has increased between the two most recent national census. The in-combination impact is considered to be an over-estimate due to various factors discussed within the RIAA Part 3 and when some of these are taken into account within the Applicant's scenario, the predicted effect on the growth rate of the SPA population as predicted by the PVA modelling is not considered to be of a magnitude that would prevent the razorbill population at the SPA from recovering. In addition, there are various uncertainties that limit the ability of PVA modelling to accurately predict the population effect of the predicted in-combination	No AEOI
			Ensure razorbills are not at significant risk from injury or mortality.		No AEOI
			Ensure razorbills can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.	Ensure razorbill continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to razorbill and ensure individuals can		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			move safely between these areas within the site.	impact. It is therefore considered that there will be no significant effect on the population of razorbill at Fowlsheugh SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Kittiwake Guillemot Razorbill	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Fowlsheugh SPA.	Maintain the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Northumberland Marine SPA	Kittiwake	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The in-combination impact level experienced during operations and maintenance on kittiwake at the Farne Islands SPA, from which kittiwake may occur within the Northumberland Marine SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the Farne Islands SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the kittiwake population at the Farne Islands SPA from recovering, noting that the population of kittiwake at the SPA declined between the two most recent national censuses. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that they will be no significant effect on the population of kittiwake at the Farne Islands SPA as a result of in-combination displacement impacts. Therefore, in-combination displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Buchan Ness to Collieston Coast SPA	Kittiwake Guillemot	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	it is considered the potential for a significant effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that there will be no significant effect on the population of kittiwake at the Buchan Ness to Collieston Coast SPA as a result of in-combination displacement impacts. Therefore, in-combination displacement impacts during operation and maintenance will not prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site. Furthermore, the in-combination impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI
	Guillemot	2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Maintain the breeding population of guillemots at a stable or increasing trend relative to the current site reference population.	The in-combination impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the	No AEOI
			Ensure guillemots are not at significant risk from injury or mortality.		No AEOI
			Ensure guillemots can move safely between the site and important areas of		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			functionally linked sea outwith the site.	guillemot population at the SPA. However, the population at the SPA is well above the cited population and as the PVA modelling predicts that the population growth rate will remain positive, the conservation objectives for the SPA will not be undermined. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of guillemot at the Buchan Ness to Collieston Coast SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to guillemots and ensure individuals can move safely between these areas within the site.		No AEOI
	Kittiwake Guillemot	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA	Maintain the extent and distribution of the supporting habitats for the feature within the site	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	which the habitats of qualifying species rely from being maintained or restored.	No AEOI
Forth Islands SPA	Guillemot Razorbill Puffin Gannet	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is considered to be of a magnitude that has the potential to impact this conservation objective. Please see justifications for objectives 2a, 2b and 2c	AEOI
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	AEOI
	Guillemot	2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of guillemot at a stable or increasing trend relative to the site reference population.	The in-combination impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the guillemot population at the SPA. Whilst the PVA modelling predicts that the population growth rate will remain positive this does not correspond with the current trend seen at the SPA where the population is declining and, as a result of the predicted in-combination impact, may decline below the designated population during the lifetime of Morven	AEOI
			Ensure guillemot are not at significant risk from injury or mortality.		AEOI
			Ensure guillemot can move safely between the site and important areas of functionally linked sea outwith the site.		AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant	Ensure guillemot continue to have access to and can utilise all optimal habitats suitable for all relevant		AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		disturbance of the species.	aspects of their life cycle associated with the site.	South. The in-combination impact is considered to be an over-estimate due to various factors discussed within RIAA Part 3 and there are various uncertainties that limit the ability of PVA modelling to accurately predict the population effect of the predicted in-combination impact. However, due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for a significant effect on the guillemot population of the Forth Islands SPA as a result of in-combination displacement impacts associated with Morven South and other plans and projects. Therefore, there is potential for in-combination displacement impacts during operation and maintenance to prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site, as well as to influence the long-term maintenance of the distribution of the assessed qualifying species within the site.	
			Avoid significant disturbance to guillemot and ensure individuals can move safely between these areas within the site.		AEOI
	Gannet	2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The in-combination impact level experienced during operations and maintenance on gannet surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the gannet population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	censuses it has since declined due to HPAI. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of gannet at the Forth Islands SPA as a result of in-combination collision risk impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI
	Razorbill	2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of razorbill at a stable or increasing trend relative to the site reference population.	The in-combination impact level experienced during operations and maintenance on razorbill surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the razorbill population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the razorbill population at the SPA. However, the population at the SPA is significantly above the cited population and as the PVA modelling predicts that the population growth rate will remain positive, the	No AEOI
			Ensure razorbill are not at significant risk from injury or mortality during the breeding season.		No AEOI
			Ensure razorbill can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure razorbill continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	conservation objectives for the SPA will not be undermined. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of razorbill at the Forth Islands SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to razorbill and ensure individuals can move safely between these areas within the site.		No AEOI
	Puffin	2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of puffin at a stable or increasing trend relative to the site reference population	The in-combination impact level experienced during operations and maintenance on puffin surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the puffin population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the SPA from being maintained, noting that the population of puffin at the SPA is higher than the designated population. When	No AEOI
			Ensure puffins are not at significant risk from injury or mortality.		No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.	considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of puffin at the Forth Islands SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI
	Guillemot Razorbill Puffin Gannet	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Forth Islands SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			supporting habitats and/or prey, should be avoided.		
St Abb's Head to Fast Castle SPA	Guillemot Razorbill	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Guillemot	2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Maintain the breeding population of guillemots at a stable or increasing trend relative to the site reference population.	The in-combination impact level experienced during operations and maintenance on guillemot surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the guillemot population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the guillemot population at the SPA. However, the population at the SPA is above the cited population and as the PVA modelling predicts that the population growth rate will remain positive, the conservation objectives for the SPA will not be undermined. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of guillemot at the St Abb's Head to Fast Castle SPA as a result of in-combination displacement impacts.	No AEOI
			Ensure guillemots are not at significant risk from injury or mortality.		No AEOI
			Ensure guillemots can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure guillemots continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to guillemots		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			and ensure individuals can move safely between these areas within the site.	Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Razorbill	2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of razorbill have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on razorbill surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the razorbill population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that would impact the razorbill population at the SPA. The PVA modelling predicts that the population growth rate will be negative corresponding with the current trend seen at the SPA where the population is declining and, as a result of the predicted in-combination impact, may decline below the designated population during the lifetime of Morven South. The in-combination impact is considered to be an over-estimate due to various factors discussed within the RIAA Part 3 and there are various uncertainties that limit the ability of PVA modelling to accurately predict the population effect	AEOI
			Ensure razorbill are not at significant risk from injury or mortality.		AEOI
			Ensure razorbill can move safely between the site and important areas of functionally linked sea outwith the site.		AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure razorbill continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		AEOI
			Avoid significant disturbance to razorbill and		AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			ensure individuals can move safely between these areas within the site.	of the predicted in-combination impact. However, due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for a significant effect on the razorbill population at the St Abb's Head to Fast Castle SPA as a result of in-combination displacement impacts. Therefore, there is potential for in-combination displacement impacts during operation and maintenance to prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site, as well as to influence the long-term maintenance of the distribution of the assessed qualifying species within the site.	
	Guillemot Razorbill	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for the feature within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination displacement impacts associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in eutrophication or water turbidity, where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Farne Islands SPA	Puffin	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The in-combination impact level experienced during operations and maintenance on puffin surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the puffin population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the SPA from being maintained, noting that the population of puffin at the SPA is higher than the designated population. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of puffin at the Farne Islands SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for displacement during all operations and maintenance of Morven	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Coquet Island SPA	Puffin	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The in-combination impact level experienced during operations and maintenance on puffin surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the puffin population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the SPA from being maintained, noting that the population of puffin at the SPA is higher than the designated population. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of puffin at the Coquet Island SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
East Caithness Cliffs SPA	Kittiwake Razorbill (non-breeding seasons only)	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Kittiwake	2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of kittiwake at a stable or increasing trend relative to the site reference population	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Ensure kittiwakes are not at significant risk from injury or mortality.	conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for adverse effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. The contribution of Morven South to the in-combination impact, particularly under NatureScot's recommended parameter scenario is also not considered to materially alter the current in-combination impact. It is therefore considered that there will be no significant effect on the population of kittiwake at the East Caithness Cliffs SPA as a result of in-combination displacement impacts. Therefore, in-combination displacement impacts during operation and maintenance will not prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site. Furthermore, the in-combination impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Razorbill (non-breeding seasons only)	2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of razorbills at a stable or increasing trend relative to the site reference population.	The in-combination impact level experienced during operations and maintenance on razorbill surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the razorbill population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the razorbill population at the SPA from being maintained, noting that the population of razorbill at the SPA is significantly higher than the designated population. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of razorbill at the East Caithness Cliffs SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure razorbills are not at significant risk from injury or mortality.		No AEOI
			Ensure razorbills can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure razorbills continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to razorbills and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Kittiwake Razorbill (non-breeding seasons only)	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at East Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for razorbills within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Flamborough and Filey Coast SPA	Kittiwake Razorbill (non-breeding seasons only)	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the kittiwake population at the SPA from continuing to grow, noting that the population of kittiwake at the SPA has shown an increasing trend between the two most recent national censuses. In addition consideration should be given to other factors discussed in relation to over-estimation of impacts	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				and the uncertainties associated with PVA modelling. It is also important to note that the Farne Islands SPA falls under the remit of Natural England. Natural England do not require consideration of displacement impacts for kittiwake and therefore it is considered that there will be no significant effect on the population of kittiwake at the Flamborough and Filey Coast SPA as a result of in-combination displacement impacts. Therefore, in-combination displacement impacts during operation and maintenance will not prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site. Furthermore, the in-combination impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, there is no pathway for displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination displacement impacts associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Foula SPA	Puffin (non-	1. To ensure that the qualifying features of the Foula SPA are in favourable condition and make an appropriate		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	breeding seasons only)	contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Foula SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Foula SPA.	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on puffin surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the puffin population with this analysis presented in the RIAA Part 3. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for adverse effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that there will be no significant effect on the population of puffin at the Foula SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
			Ensure puffins are not at significant risk from injury or mortality.		No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Foula SPA.	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.	Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Hermaness, Saxa Vord and Valla Field SPA	Puffin (non-breeding seasons only)	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
	Gannet (non-breeding	2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	seasons only)	environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:			
	Gannet (non-breeding seasons only)	2a. The populations of the qualifying features are viable components of the Hermaness, Saxa Vord and Valla Field SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The in-combination impact level experienced during operations and maintenance on gannet surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the gannet population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of gannet at the Hermaness, Saxa Vord and Valla Field SPA as a result of in-combination collision risk impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
	Puffin (non-breeding seasons only)	2a. The populations of the qualifying features are viable components of the Hermaness, Saxa Vord and Valla Field SPA.	Ensure the breeding population of puffin have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on puffin surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the puffin population with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the puffin population at the SPA from recovering. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of puffin at the Hermaness, Saxa Vord and Valla Field SPA as a result of in-combination displacement impacts. Therefore, displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the impact of displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
			Ensure puffins are not at significant risk from injury or mortality.		No AEOI
			Ensure puffins can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure puffins continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to puffins and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
	Puffin (non-breeding seasons only) Gannet (non-breeding seasons only)	2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hermaness, Saxa Vord and Valla Field SPA.	Maintain the extent and distribution of the supporting habitats for puffin within the site.	There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

1.2.3 Combined collision and displacement

Table 1.10: Conclusions against the conservation objectives of all Special Protection Areas relating to combined collision and displacement during the operations and maintenance phase of Morven South in-combination with other plans and projects

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Outer Firth of Forth and St Andrews Bay Complex SPA	Kittiwake	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	AEOI
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	AEOI
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure breeding qualifying species have the ability to recover at the relevant SPA breeding colonies.	The in-combination impact level experienced during operations and maintenance on kittiwake at the St Abb's Head to Fast Castle SPA, from which kittiwake may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the St Abb's Head to Fast Castle SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the St Abb's Head to Fast Castle SPA population as predicted by PVA modelling has the potential to be of a magnitude that could prevent the kittiwake population at the St Abb's Head to Fast Castle SPA from continuing to recover. The population of kittiwake at the St Abb's Head to Fast Castle SPA has decreased between the two most recent national censuses but has shown signs of recovery	AEOI
			Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and non-breeding seasons.		AEOI
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				since however, it remains below the designated population. The in-combination impact is considered to be an over-estimate due to various factors discussed in the RIAA Part 3 and there are various uncertainties that limit the ability of PVA modelling to accurately predict the population effect of the predicted in-combination impact. Whilst taking account of these factors improves the PVA metrics it is considered that this may not be to a level at which the potential for a significant effect can confidently be ruled out. Therefore, due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for a significant effect on the kittiwake population of the St Abb's Head to Fast Castle SPA as a result of in-combination combined collision and displacement impacts associated with Morven South and other plans and projects. Therefore, there is potential for in-combination combined collision and displacement during operation and maintenance to prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site, as well as to influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2b. The distribution of the qualifying features is maintained throughout the	Ensure the qualifying species continue to have access to and can utilise	The impact of combined collision and displacement during operation and maintenance will not influence the long-term maintenance of the	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		site by avoiding significant disturbance of the species.	all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.	distribution of the assessed qualifying species within the site.	
			Avoid significant disturbance to the qualifying species and ensure individuals can move safely between these areas within the site.		No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, combined collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Gannet	1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA	Ensure the qualifying species within Outer Firth of Forth and St Andrews Bay Complex SPA are not at significant risk from injury or mortality during the breeding and nonbreeding seasons	The in-combination impact level experienced during operations and maintenance on gannet at the Forth Islands SPA, from which gannet may occur within the Outer Firth of Forth and St Andrews Bay Complex SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the gannet population at the Forth Islands SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the Forth Islands SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the Forth Islands SPA, noting that although the population of gannet at the Forth Islands SPA has increased between the two most recent national censuses it has since declined due to HPAI. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of gannet at the Forth Islands SPA as a result of in-combination combined collision and displacement impacts.	No AEOI
			Ensure the qualifying species can move safely between the site and important areas of functionally linked land outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure the qualifying species continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.		No AEOI
			Avoid significant disturbance to the qualifying species and ensure individuals can		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			move safely between these areas within the site.	Therefore, in-combination combined collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of combined collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.	Maintain the extent and distribution of the supporting habitats for the qualifying species within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in a significant effect on the habitats of the qualifying species. Therefore, in-combination combined collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Fowlsheugh SPA	Kittiwake	1. To ensure that the qualifying features of the Fowlsheugh SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Fowlsheugh SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Fowlsheugh SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When considered against the current status of the kittiwake population at the SPA, the CGR associated with the PVA outputs associated with NatureScot's approach is approaching a level whereby there would be the potential for a significant effect. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for adverse effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			move safely between these areas within the site.	there will be no significant effect on the population of kittiwake at the Fowlsheugh SPA as a result of in-combination combined collision and displacement impacts. Consequently, as the impact on mortality rate falls within the natural fluctuations of background mortality for the populations, it can be concluded that there is a negligible risk (and so not a significant risk) during the operational and maintenance phase, of collision and displacement causing injury or mortality to the species as a qualifying feature of the SPA.. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Fowlsheugh SPA.	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South in-combination with other plans and projects will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			processes have the ability to recover.	which the habitats of qualifying species rely from being maintained or restored.	
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
Northumberland Marine SPA	Kittiwake	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The in-combination impact level experienced during operations and maintenance on kittiwake at the Farne Islands SPA, from which kittiwake may occur within the Northumberland Marine SPA, surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the Farne Islands SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the kittiwake population at the Farne Islands SPA from recovering, noting that the population of kittiwake at the SPA declined between the two most recent national censuses. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that they will be no significant effect on the population of kittiwake at the Farne Islands SPA as a result of	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				in-combination combined collision and displacement impacts. Therefore, in-combination combined collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the in-combination impact of combined collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. There is no pathway for in-combination displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, in-combination combined collision and displacement associated with Morven South will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Buchan Ness to Collieston Coast SPA	Kittiwake	1. To ensure that the qualifying features of the Buchan Ness to Collieston Coast SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the Buchan Ness to Collieston Coast SPA is restored in the context of		Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:			
		2a. The populations of the qualifying features are viable components of the Buchan Ness to Collieston Coast SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When considered against the current status of the kittiwake population at the SPA, the CGR associated with the PVA outputs associated with NatureScot's approach is approaching a level whereby there would be the potential for a significant effect. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for adverse effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that there will be no significant effect on the population of kittiwake at the Buchan Ness to Collieston Coast SPA as a result of in-combination combined collision and displacement impacts. Therefore, collision and displacement during operation and maintenance will not prevent the	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Buchan Ness to Collieston Coast SPA.	Maintain the extent and distribution of the supporting habitats for kittiwake within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South in-combination with other plans and projects will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Gannet	1. To ensure that the qualifying features of the Forth Islands SPA are in favourable condition and make an		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Forth Islands SPA		appropriate contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the Forth Islands SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Forth Islands SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The in-combination impact level experienced during operations and maintenance on gannet surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the gannet population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of gannet at the Forth Islands SPA as a result of in-combination combined collision and displacement impacts. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Forth Islands SPA.	Maintain or enhance the extent and distribution of the supporting habitats for gannets within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South in-combination with other plans and projects will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
St Abb's Head to Fast Castle SPA	Kittiwake	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c.	AEOI
		2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling has the potential to be of a magnitude that could prevent the kittiwake population at the SPA from continuing to recover. The population of kittiwake at the SPA has decreased between the two most recent national censuses but has shown signs of recovery since however, it remains below the designated population. The in-combination impact is considered to be an over-estimate due to various factors discussed and there are various uncertainties that limit the ability of PVA modelling to accurately predict the population effect of the predicted in-combination impact. Whilst taking account of these factors improves the PVA metrics it is considered that this may not be to a level at which the potential for adverse effect can confidently be ruled out. Therefore, due to the current declining trend at the SPA and the PVA outputs it is considered, on a precautionary basis that there is potential for a significant effect on the	AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				kittiwake population of the St Abb's Head to Fast Castle SPA Therefore, there is potential for in-combination combined collision and displacement during operation and maintenance to prevent the conservation objectives from being achieved for the assessed qualifying features and the population of the species as viable components of the site, as well as to influence the long-term maintenance of the distribution of the assessed qualifying species within the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South in-combination with other plans and projects will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI
	Kittiwake	1. To ensure that the qualifying features of the St Abb's Head to Fast Castle SPA are in favourable condition and		The predicted impact is not considered to be of a magnitude that would undermine this conservation	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
Troup, Pennan and Lion's Heads SPA		make an appropriate contribution to achieving Favourable Conservation Status.		objective. Please see justifications for objectives 2a, 2b and 2c	
		2. To ensure that the integrity of the St Abb's Head to Fast Castle SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the St Abb's Head to Fast Castle SPA.	Ensure the breeding population of kittiwake have the ability to recover to the site reference population.	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for a significant effect. When the factors discussed in relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for adverse effect can be discounted. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that there will be no significant effect on the population of kittiwake at the Troup, Pennan and Lion's Heads SPA as a result	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				of in-combination combined collision and displacement impacts. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at St Abb's Head to Fast Castle SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South in-combination with other plans and projects will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			supporting habitats and/or prey, should be avoided.		
East Caithness Cliffs SPA	Kittiwake	1. To ensure that the qualifying features of the East Caithness Cliffs SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2. To ensure that the integrity of the East Caithness Cliffs SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the East Caithness Cliffs SPA.	Maintain the breeding population of kittiwake at a stable or increasing trend relative to the site reference population	The in-combination impact level experienced during operations and maintenance on kittiwake surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the kittiwake population at the SPA with this analysis presented in the RIAA Part 3. When considered against the current status of the kittiwake population at the SPA, the CGR associated with NatureScot's approach is approaching a level whereby there would be the potential for a significant effect. When the factors discussed n relation to the inherent over-estimation of the in-combination impacts and the uncertainties associated with PVA modelling are taken into account this would improve the PVA metrics predicted above to a level at which it is considered the potential for adverse effect can be discounted. The predicted effect on the growth rate of the SPA	No AEOI
			Ensure kittiwakes are not at significant risk from injury or mortality.		No AEOI
			Ensure kittiwakes can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure kittiwakes continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Avoid significant disturbance to kittiwakes and ensure individuals can move safely between these areas within the site.	population as predicted by PVA modelling is therefore not considered to be of a magnitude that would prevent the kittiwake population at the SPA from recovering. It is therefore considered that there will be no significant effect on the population of kittiwake at the East Caithness Cliffs SPA as a result of in-combination combined collision and displacement impacts. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	No AEOI
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at East Caithness Cliffs SPA.	Maintain or enhance the extent and distribution of the supporting habitats for kittiwakes within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South in-combination with other plans and projects will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on	No AEOI
			Maintain the variety and abundance of food resources and the condition of supporting habitats and associated processes.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	which the habitats of qualifying species rely from being maintained or restored.	No AEOI
Flamborough and Filey Coast SPA	Kittiwake	Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • The extent and distribution of the habitats of the qualifying features. • The structure and function of the habitats of the qualifying features. • The supporting processes on which the habitats of the qualifying features rely. • The populations of each of the qualifying features. • The distribution of qualifying features within the site.		The in-combination impact level experienced during operations and maintenance on kittiwake at the SPA remains below the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). Impacts below this threshold are considered non-material, falling within the natural fluctuations of the population. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would prevent the kittiwake population at the SPA from continuing to grow, noting that the population of kittiwake at the SPA has shown an increasing trend between the two most recent national censuses. In addition consideration should be given to other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling. It is also important to note that the Farne Islands SPA falls under the remit of Natural England. Natural England do not require consideration of displacement impacts for kittiwake and therefore it is considered that there will be no significant effect on the population of kittiwake at the Flamborough and Filey Coast SPA as a result of in-combination combined collision	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				and displacement impacts. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA. Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site. Additionally, as Morven South and all other in-combination projects are located outside the SPA boundary, there is no pathway for collision and displacement during all operations and maintenance of Morven South to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South in-combination with other plans and projects will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	
Hermaness, Saxa Vord and Valla Field SPA	Gannet (non-breeding seasons only)	1. To ensure that the qualifying features of the Hermaness, Saxa Vord and Valla Field SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.		The predicted impact is not considered to be of a magnitude that would undermine this conservation objective. Please see justifications for objectives 2a, 2b and 2c	No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
		2. To ensure that the integrity of the Hermaness, Saxa Vord and Valla Field SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:		Please see justifications for objectives 2a, 2b and 2c	No AEOI
		2a. The populations of the qualifying features are viable components of the Hermaness, Saxa Vord and Valla Field SPA.	Maintain the breeding population of gannet at a stable or increasing trend relative to the site reference population	The in-combination impact level experienced during operations and maintenance on gannet surpasses the advised 0.02 percentage point threshold for increased mortality, as recommended by NatureScot (2023h). As a result population modelling was conducted to further understand potential impacts on the gannet population at the SPA with this analysis presented in the RIAA Part 3. The predicted effect on the growth rate of the SPA population as predicted by PVA modelling is not considered to be of a magnitude that would impact the gannet population at the SPA, noting that although the population of gannet at the SPA has increased between the two most recent national censuses it has since declined due to HPAI. When considered alongside other factors discussed in relation to over-estimation of impacts and the uncertainties associated with PVA modelling it is considered that there will be no significant effect on the population of gannet at the Hermaness, Saxa Vord and Valla Field SPA as a result of in-combination combined collision and displacement impacts. Therefore, collision and displacement during operation and maintenance will not prevent the conservation objectives of the site from being achieved and therefore the species will remain a viable component of the SPA.	No AEOI
			Ensure gannets are not at significant risk from injury or mortality.		No AEOI
			Ensure gannets can move safely between the site and important areas of functionally linked sea outwith the site.		No AEOI
		2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.	Ensure gannets continue to have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycles associated with the site.		No AEOI
			Avoid significant disturbance to gannets and ensure individuals can move safely between these areas within the site.		No AEOI

SPA	Feature	Conservation objective	Site specific advice	Justification	Conclusion
				Furthermore, the combined impact of collision and displacement during operation and maintenance will not influence the long-term maintenance of the distribution of the assessed qualifying species within the site or prevent the feature from accessing all optimal habitats suitable for all relevant aspects of the feature's life cycle associated with the site.	
		2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at Hermaness, Saxa Vord and Valla Field SPA.	Maintain or enhance the extent and distribution of the supporting habitats for gannets within the site.	There is no pathway for in-combination combined collision and displacement during all operations and maintenance to result in adverse effects on the habitats of the qualifying species. Therefore, collision and displacement associated with Morven South in-combination with other plans and projects will not prevent the extent, distribution, structure and function of the habitats of the qualifying species or the supporting processes on which the habitats of qualifying species rely from being maintained or restored.	No AEOI
			Ensure the variety and abundance of food resources and the condition of supporting habitats and associated processes have the ability to recover.		No AEOI
			Existing water quality should be maintained and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.		No AEOI