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MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Review of Cumulative Effects Assessment and In-Combination Assessment: Offshore ornithology

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Image of an Offshore Wind Farm

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Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited.
Apportioning	A method that assigns unknown entities to known entities based on weighting factors. In this report, it refers to birds of unknown origin within the study area that are assigned to colonies based on distance to colony and colony size.
Biologically Defined Minimum Population Scale	Minimum regional population size of a particular bird species at a certain time of year, defined for a range of species in Furness (2015).
Cumulative effects assessment	Assessment of the likely effects arising from the Morgan Generation Assets alongside the likely effects of other development activities in the vicinity of the Morgan Generation Assets.
Effect	The consequence of an impact.
Impact	A change that is caused by an action.
In-combination effect	The combined effect of the Morgan Generation Assets in-combination with the effects from a number of different projects on the same feature/receptor.
Morgan Offshore Wind Project: Generation Assets	This is the name given to the Morgan Generation Assets project as a whole (includes all infrastructure and activities associated with the project construction, operations and maintenance, and decommissioning).
Ornithology	Ornithology is a branch of zoology that relates to the study of birds.
Special Protection Area	A designation under the European Union Directive on the Conservation of Wild Birds, under which countries have a duty to safeguard the habitats of migratory birds and certain particularly threatened birds.

Acronyms

Acronym	Description
BDMPS	Biologically Defined Minimum Population Scale
CEA	Cumulative Effects Assessment
CRM	Collision Risk Model
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
HRA	Habitats Regulations Assessment
ISAA	Information to Support Appropriate Assessment
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effect
NRW	Natural Resources Wales
PEIR	Preliminary Environmental Information Report
SNCB	Statutory Nature Conservation Body
SPA	Special Protection Areas
SSSI	Site of Special Scientific Interest

Units

Unit	Description
km	Kilometre
%	Percentage

1 REVIEW OF CUMULATIVE EFFECTS ASSESSMENT AND IN-COMBINATION ASSESSMENT: OFFSHORE ORNITHOLOGY

1.1 Introduction

1.1.1.1 Morgan Offshore Wind Limited (hereafter referred to as 'the Applicant') submitted a Development Consent Order (DCO) application for the Morgan Offshore Wind Project: Generation Assets (hereafter referred to as the 'Morgan Generation Assets') on 24 April 2024. The DCO application included an Environmental Statement, which presented results of the Environmental Impact Assessment (EIA), encompassing a Cumulative Effects Assessment (CEA) (as presented within Volume 2, Chapter 5: Offshore ornithology (APP-023)). The DCO application also included the Information to Support an Appropriate Assessment (ISAA) which encompassed an in-combination assessment (APP-098).

1.1.1.2 The CEA identified those projects, plans or activities with which the Morgan Generation Assets may interact to produce a cumulative effect. Information on other projects, plans or activities which was publicly available in January 2024 (up to three months before the application was submitted, as described in Volume 1, Chapter 5: Environmental impact assessment methodology (APP-012)) was considered in the CEA and in-combination assessment.

1.1.1.3 Since January 2024, new projects not previously considered in the CEA have entered the public domain, and new or updated assessment material has been published on projects that had been considered in the CEA. This document presents a review of the following:

1. New project information published up to 27 September 2024: for new projects (information for which was not available at the time of completing the CEA for the application), the Applicant has carried out CEA screening in line with Volume 3, Annex 5.1: Cumulative effects screening matrix (APP-031) and considered whether there is potential for additional cumulative effects to arise in order to inform whether these projects are screened into or out of the CEA review.
2. Updated project information published up to 27 September 2024: for those projects already considered in the CEA submitted with the application, the Applicant has carried out a review to determine whether the updated information could change the conclusions of the assessment presented in the application.

1.1.1.4 This aligns with the CEA guidance published by the Planning Inspectorate in September 2024 which states that: 'Further assessment may be required during the examination stage for any newly identified 'other existing development and, or approved development' with potential to give rise to significant effects' (The Planning Inspectorate, 2024). If there is no potential for significant effects to arise, no further assessment is required.

1.1.1.5 A Review of Cumulative Effects Assessment and In-Combination Assessment was submitted at Deadline 2 (REP2-023), covering all topics within the Environmental Statement with the exception of offshore ornithology. For offshore ornithology, additional work was required to understand the potential cumulative effects of new projects and updated project information. This document presents the review of the offshore ornithology CEA and in-combination assessment and should be read

alongside the Review of Cumulative Effects Assessment and In-Combination Assessment (REP2-023) which presents the full methodology and screening outcomes. This document represents the review noted as pending for offshore ornithology in Table 1.4 and Table 1.5 of REP2-023.

1.1.1.6 This report therefore provides the following:

- A review of the Morecambe Offshore Windfarms: Generation Assets (hereafter the 'Morecambe Generation Assets') application to determine if the final impact estimates for that project have a material effect on the conclusions presented in Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).
- A review of applications submitted subsequent to the submission of the Morgan Generation Assets application (excluding the Morecambe Generation Assets).

1.2 Methodology

1.2.1.1 This report has been prepared to supplement the CEA and in-combination assessment undertaken for the Morgan Generation Assets within Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

1.2.1.2 Note that the exercises undertaken in this report are to show the effect that each potential change to the cumulative and in-combination totals may have on the assessments presented in the Morgan Generation Assets application. As such, each project or group of projects is considered in isolation and is not combined with the exercises undertaken for other projects/groups of projects. It is the Applicant's position that the cumulative and in-combination assessments conducted for the Morgan Generation Assets do not require an update to account for recently submitted projects (section 1.3.2).

1.2.2 Morecambe Generation Assets

1.2.2.1 Information in relation to the impacts associated with the Morecambe Generation Assets was available from the project's Preliminary Environmental Information Report (PEIR) and was used to inform the assessments conducted for the Morgan Generation Assets presented in Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098). The application for the Morecambe Generation Assets is now publicly available and consideration has therefore been given to the potential effect that the updated information may have on the conclusions reached in the assessments conducted for the Morgan Generation Assets. In relation to the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), this is relevant to the Step 2 integrity test which included the following SPAs and associated qualifying features:

- Guillemot at the Flannan Isles SPA
- Herring gull at the Morecambe Bay and Duddon Estuary SPA
- Great black-backed gull at the Isles of Scilly SPA
- Kittiwake at the Ireland's Eye SPA and North-west Irish Sea SPA

- Kittiwake at the Cape Wrath SPA.

1.2.2.2 A screening exercise has been conducted to identify if impacts have increased for relevant species (i.e. those considered in the assessments for the Morgan Generation Assets) between the Morecambe Generation Assets PEIR and application, reflecting the process set out in section 1.2.3 of the Review of Cumulative Effects Assessment and In-Combination Assessment (REP2-023). Where an increase has occurred, the species of relevance has been progressed for further consideration.

1.2.2.3 The potential effects of any increases in impact magnitude at the Morecambe Generation Assets has been considered by updating the cumulative and in-combination totals presented in the assessments for the Morgan Generation Assets with the impact estimates for the Morecambe Generation Assets presented in the project's application. The resulting cumulative and in-combination totals and the impact this has on the baseline mortality of relevant populations have then been compared against the corresponding values estimated in the Morgan Generation Assets application, to determine if the incorporation of the updated impact estimates for the Morecambe Generation Assets result in change in the conclusions reached in the Morgan Generation Assets EIA and ISAA assessments.

1.2.2.4 Apportioning values for the Morecambe Generation Assets for various qualifying features at SPAs considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) were unavailable for use in the Morgan Generation Assets application. Therefore, the apportioning values calculated for the Morgan Generation Assets were applied to impacts from the Morecambe Generation Assets for the Morgan Generation Assets application documents. Apportioning values for the Morecambe Generation Assets are now available and have therefore been incorporated into the exercise conducted in this report.

1.2.3 Recently submitted applications

1.2.3.1 Each project for which new or updated project information is available was taken forward to the screening stage presented in the Review of Cumulative Effects Assessment and In-Combination Assessment (REP2-023). The projects that have been considered are listed in Table 1.1 of the Review of Cumulative Effects Assessment and In-Combination Assessment (REP2-023) with those progressed for consideration in this document identified in Table 1.3 of the Review of Cumulative Effects Assessment and In-Combination Assessment (REP2-023). This includes the following projects which have been screened in for offshore ornithology:

- Arklow Bank Wind Park 2 (application submitted in April 2024) situated in Irish waters
- Codling Offshore Wind Farm (application submitted in September 2024) situated in Irish waters.
- Llŷr floating offshore wind project (application submitted in August 2024) situated within Welsh waters
- North Irish Sea Array (NISA) (application submitted in June 2024) situated in Irish waters
- Oriel Offshore Wind Farm (application submitted in April 2024) situated in Irish waters.

1.2.3.2 As the applications for the above projects were submitted after the Morgan Generation Assets application, their application materials have already accounted for the impacts of the Morgan Generation Assets within the respective CEAs.

1.2.3.3 In section 1.3.2, the conclusions of the CEA assessments for each impact and species considered in the assessments conducted for projects for which applications have been submitted since the submission of the Morgan Generation Assets application are sourced directly from each referenced report for each project. Therefore, the EIA methodology and terms used are relevant for that specific project and jurisdiction. The Applicant makes note of the significance or non-significance of the conclusions but has not altered the text used. For example, slight magnitude has been used for Irish projects (in line with relevant EIA guidance for Ireland), but this term is not used for UK projects.

1.2.3.4 The review undertaken at Deadline 2 (Review of Cumulative Effects Assessment and In-Combination Assessment (REP2-023)) also identified the Oran na Mara Tidal Energy Project has having moved from Tier 3 to Tier 2 within the CEA. This project is currently at the scoping phase and as such detailed impact assessments are not yet available and this project is screened out from further consideration in this report (i.e. low data availability, screening category 'e').

1.3 Review of cumulative and in-combination assessments

1.3.1 Morecambe Generation Assets

Species for consideration

1.3.1.1 The Morgan Generation Assets application utilised collision and displacement mortality figures contained within the PEIR for the Morecambe Generation Assets. The application for the Morecambe Generation Assets was accepted on 27 June 2024. This section considers the information contained within the Morecambe Generation Assets application and the changes that have occurred since the PEIR submission including updated collision and displacement impact estimates and the apportioning values for relevant species.

1.3.1.2 Table 1.1 and Table 1.2 provide a comparison between the displacement and collision impacts from the Morecambe Generation Assets PEIR and those presented in the Morecambe Generation Assets application. Consideration is also given to the effect any changes may have on the conclusions reached in Volume 2, Chapter 5: Offshore ornithology (APP-023).

Table 1.1: Identification of species for consideration in this report in relation to the assessments undertaken for operational displacement for the Morecambe Generation Assets.

Note:[a] calculated based on data presented in the Offshore Ornithology Technical Report submitted at PEIR or as part of the application.

Species	Season	Mean-maximum population (no. of birds)		Implications
		PEIR	Application	
Kittiwake	Breeding	2,625	1,783	PEIR numbers higher than application in all seasons, species
	Post-breeding	2,574	1,717	
	Pre-breeding	568	324	

Species	Season	Mean-maximum population (no. of birds)		Implications
		PEIR	Application	
	Annual	5,767	3,824	**screened out** from further consideration
Guillemot	Breeding	4,050	6,374	Application numbers higher than PEIR in all seasons, **species included for further consideration**
	Non-breeding	7,647	8,315	
	Annual	11,697	14,689	
Razorbill	Breeding	222	252	Application numbers higher than PEIR in all seasons except pre-breeding season, **species included for further consideration**
	Post-breeding	674	694	
	Non-breeding	596	651	
	Pre-breeding	389	382	
	Annual	1,881	1,979	
Manx shearwater	Breeding	7,577	4,705	Application numbers (post-breeding and pre-breeding) higher than PEIR, **species included for further consideration**
	Post-breeding	6	2,650	
	Pre-breeding	0	1,617	
	Annual	7,583	8,972	
Gannet	Breeding	748	541	PEIR numbers higher than application in all seasons except pre-breeding season. Increase in pre-breeding season negligible, species **screened out** from further consideration
	Post-breeding	164	124	
	Pre-breeding	0	8	
	Annual	912	673	

1.3.1.3 The seasonal mean-maximum population estimates for guillemot, razorbill and Manx shearwater in the Morecambe Generation Assets application are higher than those included within the PEIR for one or more seasons. These species are therefore considered further in relation to displacement impacts in the sections below.

1.3.1.4 For gannet, the mean-maximum population estimates in the breeding and post-breeding seasons have decreased between the Morecambe Generation Assets PEIR and application. However, in the pre-breeding season the mean-maximum population estimate is higher in the Morecambe Generation Assets application when compared to the PEIR. The population in the pre-breeding season has only increased by eight birds which, even when applying the most precautionary displacement and mortality rates, would result in the addition of less than one bird to the cumulative total. This contrasts with decreases of 207 birds in the breeding season and 40 birds in the post-breeding season, giving a total decrease in the annual population of 239 birds. The annual total, upon which assessments are based, has therefore decreased and gannet is not considered further in relation to displacement impacts.

1.3.1.5 The mean-maximum population estimates for kittiwake have decreased in all seasons. Kittiwake is therefore not considered further in relation to displacement impacts.

Table 1.2: Identification of species for consideration in this report in relation to the assessments undertaken for collision risk impacts for the Morecambe Generation Assets.

Species	Annual impact		Impact assumptions	Implications
	PEIR	Application		
Kittiwake	32.0	25.4	99.3% avoidance rate	Application value lower, species **screened out** of consideration
Great black-backed gull	1.0	1.8	99.4% avoidance rate	Application value higher, species **screened in** for further consideration
Herring gull	3.4	4.1	99.4% avoidance rate	Application value higher, species **screened in** for further consideration
Lesser black-backed gull	4.4	3.6	99.4% avoidance rate	Application value lower, species **screened out** of consideration
Gannet	1.8	1.3	99.3% avoidance rate 70% macro-avoidance rate applied	Application value lower, species **screened out** of consideration

1.3.1.6 The annual collision risk estimates for great black-backed gull and herring gull at the Morecambe Generation Assets have increased between the PEIR and application. These two species are therefore considered further in relation to collision impacts in the sections below.

1.3.1.7 The annual collision risk estimates for kittiwake, lesser black-backed gull and gannet have decreased between the PEIR and application. These species are therefore not considered further in relation to collision impacts.

Displacement

Guillemot

1.3.1.8 A comparison of the cumulative totals calculated for guillemot in Volume 2, Chapter 5: Offshore ornithology (APP-023) and those calculated using the application values for the Morecambe Generation Assets is provided in Table 1.3. The totals are compared against the baseline mortality of the relevant BDMPS populations to identify the potential implications for the conclusions reached in Volume 2, Chapter 5: Offshore ornithology (APP-023).

Table 1.3: Comparison of cumulative displacement impacts for guillemot calculated using impacts from the Morecambe Generation Assets PEIR and application.

Note:[a] Displacement impact is calculated using a 50% displacement rate and 1% mortality rate. Figures in brackets are for a 30% displacement rate and 1% mortality rate and 70% displacement rate and 2% mortality rate.

Season	Source of Morecambe Generation Assets values	Morecambe Generation Assets contribution (no. of birds)	Contribution from all other projects (no. of birds)	Total (no. of birds)	Displacement impact (no. of birds)[a]	Increase in baseline mortality (%)
Breeding	PEIR	4,050	35,655	39,705	199 (119 to 556)	0.13 (0.08 to 0.37)
	Application	6,374	35,655	42,029	210 (126 to 588)	0.14 (0.08 to 0.39)
Non-breeding	PEIR	7,647	47,994	55,641	278 (167 to 779)	0.18 (0.11 to 0.52)
	Application	8,315	47,994	56,309	282 (169 to 788)	0.19 (0.11 to 0.52)
Annual	PEIR	11,697	83,649	95,346	477 (286 to 1,335)	0.31 (0.19 to 0.88)
	Application	14,689	83,649	98,338	492 (295 to 1,377)	0.32 (0.19 to 0.91)

1.3.1.9 The use of displacement impacts based on data from the Morecambe Generation Assets application makes a negligible difference to the increase in baseline mortality metric used as part of cumulative assessments with increases of approximately 0.01% in all seasons and on an annual basis between the PEIR and application values. This would therefore lead to no change in the assessment conclusions reached for guillemot in Volume 2, Chapter 5: Offshore ornithology (APP-023) which concluded an impact of negligible adverse significance which is not significant in EIA terms.

1.3.1.10 In HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), in-combination displacement impacts on guillemot were considered for the Flannan Isles SPA. A comparison of the in-combination totals calculated for guillemot at the Flannan Isles SPA in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) and those calculated using the application values for the Morecambe Generation Assets is provided in Table 1.4. The totals are compared against the baseline mortality of the SPA population to identify the potential implications for the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

Table 1.4: Comparison of in-combination displacement impacts for guillemot at the Flannan Isles SPA calculated using impacts from the Morecambe Generation Assets PEIR and application.

Note:[a] Displacement impact is calculated using a 50% displacement rate and 1% mortality rate. Figures in brackets are for a 30% displacement rate and 1% mortality rate and 70% displacement rate and 2% mortality rate.

Source of Morecambe Generation Assets values	Morecambe Generation Assets contribution (no. of birds)	Contribution from all other projects (no. of birds)	Total (no. of birds)	Displacement impact (no. of birds)[a]	Increase in baseline mortality (%)
PEIR	125.1	785.0	910.1	5 (3 to 13)	1.03 (0.64 to 2.81)
Application	136.0	785.0	921.0	5 (3 to 13)	1.05 (0.65 to 2.85)

1.3.1.11 The use of displacement impacts based on data from the Morecambe Generation Assets application makes a negligible difference to the increase in baseline mortality metric for the Flannan Isles SPA with an increase of approximately 0.02% (0.01 to 0.04%) between the PEIR and application values. As discussed in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), the Flannan Isles SPA is located over 450 km from the closest project considered in the in-combination assessment. Information from Buckingham *et al.* (2022) indicates that there is no connectivity between guillemot from the SPA and the Irish Sea, and therefore the majority of projects considered in-combination. The impact predicted in Table 1.4 is therefore considered to be a significant over-estimate and would therefore not surpass the 1% threshold of baseline mortality.

1.3.1.12 There would therefore be no change in the assessment conclusions reached for guillemot at the Flannan Isles SPA in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) of no adverse effect on the Flannan Isles SPA as a result of in-combination displacement impacts on the guillemot feature at the SPA.

Razorbill

1.3.1.13 A comparison of the cumulative totals calculated for razorbill in Volume 2, Chapter 5: Offshore ornithology (APP-023) and those calculated using the application values for the Morecambe Generation Assets is provided in Table 1.5. The totals are compared against the baseline mortality of the relevant BDMPS populations to identify the potential implications for the conclusions reached in Volume 2, Chapter 5: Offshore ornithology (APP-023).

Table 1.5: Comparison of cumulative displacement impacts for razorbill calculated using impacts from the Morecambe Generation Assets PEIR and application.

Note:[a] Displacement impact is calculated using a 50% displacement rate and 1% mortality rate. Figures in brackets are for a 30% displacement rate and 1% mortality rate and 70% displacement rate and 2% mortality rate.

Season	Source of Morecambe Generation Assets values	Morecambe Generation Assets contribution	Contribution from all other projects	Total	Displacement impact[a]	Increase in baseline mortality (%)
Breeding	PEIR	222	1,023	1,245	6 (4 to 17)	0.02 (0.01 to 0.05)
	Application	252	1,023	1,275	6 (4 to 18)	0.02 (0.01 to 0.05)
Post-breeding	PEIR	674	3,144	3,818	19 (11 to 53)	0.02 (0.01 to 0.05)
	Application	694	3,144	3,838	19 (12 to 54)	0.02 (0.01 to 0.05)
Non-breeding	PEIR	596	6,540	7,136	36 (21 to 100)	0.06 (0.04 to 0.17)
	Application	651	6,540	7,191	36 (22 to 101)	0.06 (0.04 to 0.17)
Pre-breeding	PEIR	389	3,902	4,291	21 (13 to 60)	0.02 (0.01 to 0.06)
	Application	382	3,902	4,284	21 (13 to 60)	0.02 (0.01 to 0.06)
Annual	PEIR	1,881	14,610	16,491	82 (49 to 231)	0.08 (0.05 to 0.22)
	Application	1,979	14,610	16,589	83 (50 to 232)	0.08 (0.05 to 0.22)

1.3.1.14 The use of displacement impacts based on data from the Morecambe Generation Assets application makes a negligible difference to the increase in baseline mortality metric used as part of cumulative assessments with increases of approximately less than 0.01% in all seasons and on an annual basis between the PEIR and application values. This would therefore lead to no change in the assessment conclusions reached for razorbill in Volume 2, Chapter 5: Offshore ornithology (APP-023) which concluded an impact of negligible adverse significance which is not significant in EIA terms.

Manx shearwater

1.3.1.15 A comparison of the cumulative totals calculated for Manx shearwater in Volume 2, Chapter 5: Offshore ornithology (APP-023) and those calculated using the application values for the Morecambe Generation Assets is provided in Table 1.6. The totals are compared against the baseline mortality of the relevant BDMPS populations to identify the potential implications for the conclusions reached in Volume 2, Chapter 5: Offshore ornithology (APP-023).

Table 1.6: Comparison of cumulative displacement impacts for Manx shearwater calculated using impacts from the Morecambe Generation Assets PEIR and application.

Note:[a] Displacement impact is calculated using a 50% displacement rate and 1% mortality rate. Figures in brackets are for a 30% displacement rate and 1% mortality rate and 70% displacement rate and 2% mortality rate.

Season	Source of Morecambe Generation Assets values	Morecambe Generation Assets contribution	Contribution from all other projects	Total	Displacement impact[a]	Increase in baseline mortality (%)
Breeding	PEIR	7,577	20,191	27,768	139 (83 to 389)	0.06 (0.04 to 0.16)
	Application	4,705	20,191	24,896	124 (75 to 349)	0.05 (0.03 to 0.15)
Post-breeding	PEIR	6	2,216	2,222	11 (7 to 31)	0.01 (<0.01 to 0.02)
	Application	2,650	2,216	4,866	24 (15 to 68)	0.01 (0.01 to 0.03)
Pre-breeding	PEIR	0	231	231	1 (1 to 3)	<0.01 (<0.01 to <0.01)
	Application	1,617	231	1,848	9 (6 to 26)	<0.01 (<0.01 to 0.01)
Annual	PEIR	7,583	22,638	30,221	151 (91 to 423)	0.06 (0.04 to 0.18)
	Application	8,972	22,638	31,610	158 (95 to 443)	0.07 (0.04 to 0.19)

1.3.1.16 The use of displacement impacts based on data from the Morecambe Generation Assets application makes a negligible difference to the increase in baseline mortality metric used as part of cumulative assessments with increases of approximately <0.01 to 0.01% in all seasons and on an annual basis between the PEIR and application values. This would therefore lead to no change in the assessment conclusions reached for Manx shearwater in Volume 2, Chapter 5: Offshore ornithology (APP-023) which concluded an impact of negligible adverse significance which is not significant in EIA terms.

Collision

Great black-backed gull

1.3.1.17 A comparison of the cumulative totals in Great black-backed gull regional populations clarification note submitted at Deadline 2 (REP2-022)[1] and those calculated using the application values for the Morecambe Generation Assets is provided in Table 1.7. The

[1] The most recent assessment undertaken for great black-backed gull for impacts associated with the Morgan Generation Assets was presented in the Great black-backed gull regional populations clarification note submitted at Deadline 2 (REP2-022) which updated the regional populations for great black-backed gull to correct an error in the regional populations recommended by Natural England which were used as part of the application.

totals are compared against the baseline mortality of the relevant BDMPS populations to identify the potential implications for the conclusions reached in the Great black-backed gull regional populations clarification note submitted at Deadline 2 (REP2-022).

Table 1.7: Comparison of cumulative collision risk impacts for great black-backed gull calculated using impacts from the Morecambe Generation Assets PEIR and application.

Note:[a] Avoidance rates are presented for both the EWG (99.39%) and Applicant's (99.91%) positions.

Source of Morecambe Generation Assets values	Avoidance rate (%)[a]	Morecambe Generation Assets contribution	Contribution from all other projects	Total	Increase in baseline mortality (%)
PEIR	99.39	1.0	120.6	121.6	7.23
	99.91	0.1	17.7	17.8	1.06
Application	99.39	1.8	120.6	122.4	7.28
	99.91	0.3	17.7	17.9	1.07

1.3.1.18 The use of collision risk estimates from the Morecambe Generation Assets application makes a negligible difference to the increase in baseline mortality metric used as part of cumulative assessments with increases of approximately <0.01 to 0.05% between the PEIR and application values. This would therefore lead to no change in the assessment conclusions reached for great black-backed gull in the Great black-backed gull regional populations clarification note submitted at Deadline 2 (REP2-022) which concluded an impact of minor adverse significance which is not significant in EIA terms.

1.3.1.19 In HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), in-combination collision impacts on great black-backed gull were considered for the Isles of Scilly SPA/Isles of Scilly Ramsar. A comparison of the in-combination totals calculated for great black-backed gull at the Isles of Scilly SPA/Isles of Scilly Ramsar in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) and those calculated using the application values for the Morecambe Generation Assets is provided in Table 1.8. The totals are compared against the baseline mortality of the SPA population to identify the potential implications for the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

Table 1.8: Comparison of in-combination collision risk impacts for great black-backed gull at the Isles of Scilly SPA /Isles of Scilly Ramsar calculated using impacts from the Morecambe Generation Assets PEIR and application.

Note:[a] Avoidance rates are presented for both the EWG (99.39%) and Applicant's (99.91%) positions.

Source of Morecambe Generation Assets values	Avoidance rate (%)[a]	Morecambe Generation Assets contribution	Contribution from all other projects	Total	Increase in baseline mortality (%)
PEIR	99.39	<0.1	8.8	8.8	7.80
	99.91	<0.1	1.2	1.3	1.14
Application	99.39	0.1	8.8	8.9	7.86
	99.91	<0.1	1.2	1.3	1.15

1.3.1.20 The use of collision impacts based on data from the Morecambe Generation Assets application makes a negligible difference to the increase in baseline mortality metric for the Isles of Scilly SPA/Isles of Scilly Ramsar with an increase of approximately 0.01 to 0.06% between the PEIR and application values. The increase in the actual number of collisions is <0.1 to 0.1 collisions/annum between the PEIR and application values.

1.3.1.21 As discussed in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), there is considered to be very little, if any, connectivity between great black-backed gulls from the Isles of Scilly and the Irish Sea. Breeding great black-backed gulls in the UK are predominantly sedentary and are rarely found far from breeding locations. Immature great black-backed gulls disperse further than adult birds. The median distance moved by adult birds is 54.5 km, suggesting no connectivity between the Isles of Scilly and the Irish Sea, whilst for immature birds the median distance is 115 km (Wernham *et al.*, 2002). It is therefore considered highly likely that projects located in the Irish Sea do not contribute to in-combination impacts on the great black-backed gull population of the Isles of Scilly SPA/Isles of Scilly Ramsar. The impact predicted in Table 1.8 is therefore considered to be a significant over-estimate, and one to which the Morgan Generation Assets would not contribute.

1.3.1.22 There would therefore be no change in the assessment conclusions reached for great black-backed gulls at the Isles of Scilly SPA/Isles of Scilly Ramsar in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) of no adverse effect on the Isles of Scilly SPA/Isles of Scilly Ramsar as a result of in-combination collision impacts on the great black-backed gull feature at the SPA.

Herring gull

1.3.1.23 A comparison of the cumulative totals calculated for herring gull in Volume 2, Chapter 5: Offshore ornithology (APP-023) and those calculated using the application values for the Morecambe Generation Assets is provided in Table 1.9. The totals are compared against the baseline mortality of the relevant BDMPS populations to identify the potential implications for the conclusions reached in Volume 2, Chapter 5: Offshore ornithology (APP-023).

Table 1.9: Comparison of cumulative collision risk impacts for herring gull calculated using impacts from the Morecambe Generation Assets PEIR and application.

Note:[a] Avoidance rates are presented for both the EWG (99.39%) and Applicant's (99.52%) positions.

Source of Morecambe Generation Assets values	Avoidance rate (%)[a]	Morecambe Generation Assets contribution	Contribution from all other projects	Total	Increase in baseline mortality (%)
PEIR	99.39	3.4	147.7	151.2	0.41
	99.52	2.7	115.1	117.9	0.32
Application	99.39	4.1	147.7	152.0	0.41
	99.52	3.3	115.1	118.5	0.32

1.3.1.24 The use of collision risk estimates from the Morecambe Generation Assets application makes a negligible difference to the increase in baseline mortality metric used as part of cumulative assessments with increases of approximately <0.01% between the PEIR and application values. This would therefore lead to no change in the assessment conclusions reached for herring gull in Volume 2, Chapter 5: Offshore ornithology (APP-023) which concluded an impact of minor adverse significance which is not significant in EIA terms.

1.3.1.25 In HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), in-combination collision impacts on herring gull were considered for the Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar. A comparison of the in-combination totals calculated for herring gull at the Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) and those calculated using the application values for the Morecambe Generation Assets is provided in Table 1.10. The totals are compared against the baseline mortality of the SPA population to identify the potential implications for the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

Table 1.10: Comparison of in-combination collision risk impacts for herring gull at the Morecambe Bay and Duddon Estuary SPA /Morecambe Bay Ramsar calculated using impacts from the Morecambe Generation Assets PEIR and application.

Note:[a] Avoidance rates are presented for both the EWG (99.39%) and Applicant's (99.52%) positions.

Source of Morecambe Generation Assets values	Avoidance rate (%)[a]	Morecambe Generation Assets contribution	Contribution from all other projects	Total	Increase in baseline mortality (%)
PEIR	99.39	<0.1	19.3	19.4	7.50
	99.52	<0.1	15.2	15.2	5.90
Application	99.39	0.3	19.5	19.8	7.69
	99.52	0.2	15.2	15.5	5.99

1.3.1.26 The use of collision impacts based on data from the Morecambe Generation Assets application increases the baseline mortality metric for the Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar by approximately 0.09 to 0.19% between the PEIR and application values. The increase in the actual number of collisions is 0.3 to 0.4 collisions/annum between the PEIR and application values.

1.3.1.27 As discussed in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), there is considered to be very little, if any connectivity between herring gulls from the Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar and the offshore environment. Tracking studies show that herring gulls from the SPA make limited use of the offshore environment (Thaxter *et al*. 2017) preferring to utilise the area immediately around the colony most frequently. Birds also utilise terrestrial and intertidal habitats as well as nearby mussel beds to the south of Barrow-in-Furness and birds have been recorded extensively using the South Walney and Piel Channel Flats SSSI (Thaxter *et al*., 2017; Natural England, 2023). Birds can also frequently be found on intertidal mud flats, as well as nearby fields, rubbish dumps and bodies of freshwater. It is therefore considered that the impact on herring gulls from the Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar/Morecambe Bay Ramsar site is significantly lower than predicted in Table 1.10. If this is taken into account, the impact predicted in Table 1.10 would not represent an increase in baseline mortality of above 1%.

1.3.1.28 There would therefore be no change in the assessment conclusions reached for herring gull at the Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) of no adverse effect on the Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar as a result of in-combination collision impacts on the herring gull feature at the SPA.

1.3.2 Recently submitted applications

EIA

1.3.2.1 Table 1.11: presents a review of the cumulative assessments undertaken for those projects that have recently submitted applications.

Table 1.11: Conclusions of the cumulative assessments undertaken for each impact and species considered in the projects reviewed. Only impact and species assessed in the Morgan Generation Assets application are reviewed and presented.

Projects	Impact pathway	Species considered in the CEA	Morgan Generation Assets included in the CEA	Cumulative abundance or number of bird collisions	Impact significance conclusion of the assessment at EIA scale	Reference and source of the document
Arklow Bank Phase 2	Collision	Kittiwake	Quantitatively	Total numbers of collisions Annual: 820.7 to 843.0 (including 39.8 collisions/annum for the Morgan Generation Assets). Breeding: 72.8 to 74.9 collisions. Post-breeding: 120.7 to 125.2 collisions. Pre-breeding: 183.4 to 199.1 collisions.	For all seasons, slight adverse (which is not significant in EIA terms)	Volume II, Chapter 12: Offshore Ornithology SSE Renewables (2024)
		Great black-backed gull	Species screened out of consideration in project alone assessment due to low numbers being present in site-specific surveys (0.15 collisions/annum) and therefore no cumulative assessment undertaken			
		Herring gull	Species screened out of consideration in project alone assessment due to low numbers being present in site-specific surveys (0.16 collisions/annum) and therefore no cumulative assessment undertaken			
		Lesser black-backed gull	Species screened out of consideration in project alone assessment due to low numbers being present in site-specific surveys (0.08 collisions/annum) and therefore no cumulative assessment undertaken			

Projects	Impact pathway	Species considered in the CEA	Morgan Generation Assets included in the CEA	Cumulative abundance or number of bird collisions	Impact significance conclusion of the assessment at EIA scale	Reference and source of the document
		Gannet	Quantitatively	Total numbers of collisions Annual: 153.2 to 153.3 birds Breeding: 37.9 to 37.9 birds. Post-breeding: 20.1 to 20.2 birds. Pre-breeding: 5.2 to 5.2 birds.	For all seasons, slight adverse (which is not significant in EIA terms)	
	Displacement	Kittiwake	Species screened out of consideration in project alone assessment due to low sensitivity to displacement and disturbance and therefore no cumulative assessment undertaken			Volume II, Chapter 12: Offshore Ornithology SSE Renewables (2024)
		Guillemot	Quantitatively	Total cumulative abundance Annual: 176,565 birds Breeding: 39,951 birds Non-breeding: 53,544 birds	For all seasons, slight to moderate adverse which is not significant in EIA terms	

Projects	Impact pathway	Species considered in the CEA	Morgan Generation Assets included in the CEA	Cumulative abundance or number of bird collisions	Impact significance conclusion of the assessment at EIA scale	Reference and source of the document
		Razorbill	Quantitatively	Total cumulative abundance Annual: 50,922 birds Breeding: 2,481 birds Post-breeding migration: 13,145 birds Nonbreeding season: 5,713 birds Pre-breeding migration: 6,436 birds	For all seasons, slight to moderate adverse which is not significant in EIA terms	
		Manx shearwater	Species screened out of consideration in project alone assessment due to low sensitivity to displacement and disturbance and therefore no cumulative assessment undertaken			
		Gannet	Quantitatively	Total cumulative abundance Annual: 7,456 birds Breeding: 1,297 birds Post-breeding: 914 birds Pre-breeding: 223 birds	For all seasons, slight adverse which is not significant in EIA terms	
Oriel	Collision	Kittiwake	Quantitatively	752.17 collisions	Slight adverse significance which is not significant in EIA terms.	Chapter 11: Offshore Ornithology Oriel Windfarm Offshore Renewable Energy (2024)
		Great black-backed gull	Quantitatively	138.65 collisions	Slight adverse significance which is not significant in EIA terms.	
		Herring gull	Quantitatively	292.19 collisions	Slight adverse significance which is not significant in EIA terms.	

Projects	Impact pathway	Species considered in the CEA	Morgan Generation Assets included in the CEA	Cumulative abundance or number of bird collisions	Impact significance conclusion of the assessment at EIA scale	Reference and source of the document
		Lesser black-backed gull	Species screened out of consideration in project alone assessment due to low numbers being present in site-specific surveys and therefore no cumulative assessment undertaken			
		Gannet	Species screened out of consideration in cumulative assessment as project impact represented less than a 0.05% increase in the baseline mortality of the relevant biogeographic population.			
	Displacement	Kittiwake	Species screened out of consideration in project alone assessment due to low sensitivity to displacement and disturbance and therefore no cumulative assessment undertaken			
		Guillemot	Quantitatively	<u>Total cumulative abundance</u> Annual: 166,479 birds Breeding: 43,741 birds Non-breeding: 90,135 birds	Slight adverse significance which is not significant in EIA terms.	
		Razorbill	Quantitatively	<u>Total cumulative abundance</u> Annual: 44,593 birds Breeding: 3,917 birds Non-breeding: 35,291 birds	Slight adverse significance which is not significant in EIA terms.	
		Manx shearwater	Species screened out of consideration in project alone assessment due to low sensitivity to displacement and disturbance and therefore no cumulative assessment undertaken			
		Gannet	Species screened out of consideration in cumulative assessment as project impact represented less than a 0.05% increase in the baseline mortality of the relevant biogeographic population.			

Projects	Impact pathway	Species considered in the CEA	Morgan Generation Assets included in the CEA	Cumulative abundance or number of bird collisions	Impact significance conclusion of the assessment at EIA scale	Reference and source of the document
North Irish Sea Array	Collision	Kittiwake	Quantitatively	832.1 collisions	Moderate effect and not significant in EIA terms.	Chapter 15 Offshore and Intertidal Ornithology Statkraft *et al.* (2024)
		Great black-backed gull	Quantitatively	154.9 collisions	Moderate effect and not significant in EIA terms.	
		Herring gull	Quantitatively	328.9 collisions	Moderate effect and not significant in EIA terms.	
		Lesser black-backed gull	Quantitatively	232.6 collisions	Moderate effect and not significant in EIA terms.	
		Gannet	Quantitatively	110.3 collisions	Imperceptible effect and not significant in EIA terms.	
	Displacement	Kittiwake	Species screened out of consideration in project alone assessment due to low sensitivity to displacement and disturbance and therefore no cumulative assessment undertaken			
		Guillemot	Quantitatively	168,327 to 180,217 birds	Slight and not significant in EIA terms.	
		Razorbill	Quantitatively	50,192 birds	Slight and not significant in EIA terms.	
		Manx shearwater	Quantitatively	37,761 birds	Imperceptible effect and not significant in EIA terms.	
		Gannet	Quantitatively	7,954 birds	Imperceptible effect and not significant in EIA terms.	
Codling	Collision	Kittiwake	Quantitatively	785.39 to 787.76 collisions	Moderate and not significant in EIA terms for both design options.	Volume 3, Chapter 10: Ornithology Chapter 10, Appendix 10.1: Ornithology
		Great black-backed gull	Quantitatively	140.82 to 141.3 collisions	Slight and not significant in EIA terms for both design options.	
		Herring gull	Quantitatively	318.08 to 322.21 collisions	Slight and not significant in EIA terms for both design options.	

Projects	Impact pathway	Species considered in the CEA	Morgan Generation Assets included in the CEA	Cumulative abundance or number of bird collisions	Impact significance conclusion of the assessment at EIA scale	Reference and source of the document
		Lesser black-backed gull	Species screened out of consideration in project alone assessment due to low numbers being present in site-specific surveys and therefore no cumulative assessment undertaken			Cumulative Effects Assessment Codling Wind Park (2024).
		Gannet	Quantitatively	116.68 to 116.72 collisions	Slight and not significant in EIA terms for both design options.	
	Displacement	Kittiwake	Species screened out of consideration in project alone assessment due to low sensitivity to displacement and disturbance and therefore no cumulative assessment undertaken			
		Guillemot	Quantitatively	Annual abundance - 163,964 birds	Slight and not significant in EIA terms	
		Razorbill	Quantitatively	Annual abundance - 50,228 birds	Slight and not significant in EIA terms	
		Gannet	Quantitatively	Annual abundance – 7,456 birds	Not significant in EIA terms	
Llŷr floating offshore wind project	Collision	Kittiwake, great black-backed gull, herring gull, lesser black-backed gull and gannet	Qualitatively	n/a	The Llŷr floating offshore wind project did not fully undertake a CEA due to the negligible impacts predicted for the project alone. Within the application the following was stated: *There is no risk of the proposed Project contributing significantly to any cumulative impacts from collision risk at a wider, regional EIA (BDMPS) scale.*	Volume 3: Chapter 22 – Marine Ornithology Llŷr (2024)

Projects	Impact pathway	Species considered in the CEA	Morgan Generation Assets included in the CEA	Cumulative abundance or number of bird collisions	Impact significance conclusion of the assessment at EIA scale	Reference and source of the document
	Disturbance and/or displacement associated with vessels and other offshore activities	Guillemot	Qualitatively	n/a	The only species in breach of the EIA thresholds defined for the project (1% increase in baseline mortality) is guillemot, and only then in relation to the more unlikely rates of displacement and mortality advised (70%/10%). However the CEA report undertaken by Llŷr floating offshore wind project focussed on specific designated sites (Castlemartin SSSI) which are not relevant to the Morgan Generation Assets.	Volume 3: Chapter 22 – Marine Ornithology (available via NRW's public register) Volume 6: Appendix 22E – Marine Ornithology Project Alone and Cumulative Impact Scenarios Llŷr (2024)
		Kittiwake, razorbill, Manx shearwater, gannet	Species screened out of consideration in cumulative assessment as project impact represented less than a 1% increase in the baseline mortality of the relevant biogeographic population.			

1.3.2.2 The cumulative assessments conducted for these projects all included the Morgan Generation Assets. For all species in relation to all impacts, no significant cumulative impacts were identified.

HRA

1.3.2.3 The SPAs and associated qualifying features for which in-combination assessments were conducted in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) were:

- Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar
  - Herring gull
- Ireland's Eye SPA/North-west Irish Sea SPA
  - Kittiwake
- Isles of Scilly SPA/Isles of Scilly Ramsar
  - Great black-backed gull
- Cape Wrath SPA
  - Kittiwake
  - Breeding seabird assemblage
- Flannan Isles SPA
  - Guillemot
  - Breeding seabird assemblage

1.3.2.4 Table 1.12 identifies the conclusions reached in relation to the qualifying features of the SPAs listed above in the applications for each of the projects recently submitted.

1.3.2.5 Where in-combination assessments were conducted for the SPAs included in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), in the assessments conducted for those projects that have recently submitted applications they all included the Morgan Generation Assets. For all species in relation to all impacts, no adverse effects on the integrity of any SPA were identified.

Table 1.12: Conclusions of the HRA assessments undertaken at projects for which applications have been recently submitted in relation to those SPAs incorporated into the Step 2 integrity test in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

Designated site	Qualifying feature(s)	Project	Morgan Generation Assets considered in in-combination assessment?	Conclusion
Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar	Herring gull	Arklow Bank Phase 2	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Oriel	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		North Irish Sea Array	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Codling	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Llŷr	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
Ireland's Eye SPA and North-west Irish Sea SPA	Kittiwake	Arklow Bank Phase 2	In-combination assessment not conducted	The impact from the Arklow Bank Phase 2 project was considered to be 'comfortably below the threshold at which any effects could be distinguished from natural background variations (Parker *et al.,* 2022). Plans and projects which have no appreciable effect on a site are considered excluded as any effects, if there are any at all, are entirely negligible.' It was therefore considered that an in-combination assessment was not required.

Designated site	Qualifying feature(s)	Project	Morgan Generation Assets considered in in-combination assessment?	Conclusion
		Oriel	Yes	In-combination impact represented less than a 1% increase in the baseline mortality of the SPA population and therefore it was concluded that there was no adverse effect on the integrity of the SPA
		North Irish Sea Array	Yes	In-combination impact represented less than a 1% increase in the baseline mortality of the SPA population and therefore it was concluded that there was no adverse effect on the integrity of the SPA
		Codling	Yes	No adverse effect on site integrity
		Llŷr	In-combination assessment not conducted	No LSE identified based on the project alone impact being considered to represent non-significant levels of mortality
Isles of Scilly SPA/Isles of Scilly Ramsar	Great black-backed gull	Arklow Bank Phase 2	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Oriel	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		North Irish Sea Array	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Codling	In-combination assessment not conducted	No LSE identified based on the screening criteria applied

Designated site	Qualifying feature(s)	Project	Morgan Generation Assets considered in in-combination assessment?	Conclusion
		Llŷr	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
Cape Wrath SPA	Kittiwake Breeding seabird assemblage	Arklow Bank Phase 2	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Oriel	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		North Irish Sea Array	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Codling	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Llŷr	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
Flannan Isles SPA	Guillemot Breeding seabird assemblage	Arklow Bank Phase 2	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Oriel	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		North Irish Sea Array	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Codling	In-combination assessment not conducted	No LSE identified based on the screening criteria applied
		Llŷr	In-combination assessment not conducted	No LSE identified based on the screening criteria applied

1.4 Summary

1.4.1.1 Table 1.13 provides a summary of the information presented in section 1.3. There is no material change to the impact magnitudes due to the use of impact estimates from the Morecambe Generation Assets application for all species. There would therefore be no changes to the conclusions of the cumulative assessments presented for the Morgan Generation Assets in Volume 2, Chapter 5: Offshore ornithology (APP-023) or the in-combination assessments for the Morgan Generation Assets in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

1.4.1.2 The conclusions reached as part of the cumulative assessments in the applications for recently submitted projects (Arklow Bank Phase 2, Oriel, North Irish Sea Array, Codling and Llŷr) are consistent with those reached in the corresponding assessments undertaken for the Morgan Generation Assets. In addition, where in-combination assessments were conducted for those qualifying features of SPAs assessed in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), the conclusions reached in corresponding assessments undertaken in the recently submitted applications correspond with those reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

Table 1.13: Summary of conclusions reached in this report.

Project	Species/qualifying feature	Assessment	Change to Morgan Generation Assets assessment	Implications for assessments undertaken in the Morgan Generation Assets application	Conclusion
Morecambe Generation Assets	Guillemot, razorbill and Manx shearwater (displacement) Great black-backed gull and herring gull (collision)	Cumulative	Submission of application and changes to impact magnitudes	Increases in impact magnitudes	Changes to baseline mortality thresholds are negligible for all species. Therefore no impact on the conclusions reached in Volume 2, Chapter 5: Offshore ornithology (APP-023).
	Kittiwake and gannet (displacement) Kittiwake, lesser black-backed gull and gannet (collision)			None, impact magnitudes higher in PEIR and therefore assessments for the Morgan Generation Assets are precautionary	No change to assessments presented in Volume 2, Chapter 5: Offshore ornithology (APP-023).
	Guillemot at the Ireland's Eye SPA (displacement) Great black-backed gull at the Isles of Scilly SPA/Isles of Scilly Ramsar (collision) Herring gull at the Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar (collision)	In-combination		Increases in impact magnitudes	The increase in apportioned impact magnitudes is negligible and therefore have no effect on the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).
Projects with recently submitted applications (Arklow Bank Phase 2, Oriel, North Irish Sea Array, Codling and Llŷr)	All species	Cumulative	Submission of applications	Potential differences in assessment conclusions once additional projects are included. Consideration of Morgan Generation Assets	In all cases, for all species and impact combinations, conclusions that were not significant in EIA terms were reached. This corresponds with the conclusions reached in the assessments conducted for the Morgan Generation Assets.

Project	Species/qualifying feature	Assessment	Change to Morgan Generation Assets assessment	Implications for assessments undertaken in the Morgan Generation Assets application	Conclusion
	All qualifying features at relevant SPAs considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098)	In-combination			For many of the qualifying features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), conclusions of no LSE were reached in the relevant projects screening exercises. For those for which an LSE was identified, conclusions of no adverse effect on integrity were reached consistent with the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

1.5 References

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